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BY

American Experts in Veterinary Medicine and Animal
Husbandry before the Illinois General Assembly
on January 19, 1915



COMPILED AND PRINTED BY
The Secretary of State, Lewis G. Stevenson

By Authority of the General Assembly of Illinois

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THE Foot and Mouth Disease In Illinois

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INTRODUCTION.

The Illinois General Assembly, on the afternoon of January 19, 1915, considered the foot and mouth disease among the live stock herds of this State.

Herein is contained an account of that session, including the addresses delivered by animal husbandry and veterinarian experts called in to advise the General Assembly as to the character and course of the disease and the most approved, efficient, and economical methods of stamping it out.

Secretary of State, Hon. Lewis G. Stevenson, presided and introduced the following speakers:

Hon. Edward F. Dunne, Governor of Illinois.

Prof. V. A. Moore, Dean of the Veterinary Department, Cornell University, Ithaca, N. Y.

Dr. C. J. Marshall, Professor of Veterinary Medicine, University of Pennsylvania, Philadelphia.

Prof. H. W. Mumford, Professor of Animal Husbandry, University of Illinois, Urbana.

Dr. S. E. Bennett, Inspector for the United States Bureau of Animal Industry, having charge of the work in Illinois, Washington, D. C.

Dr. U. G. Houck, Inspector for the United States Bureau of Animal Industry, Washington, D. C.

G. A. Gregory, Editor, *Prairie Farmer*, Chicago.

H. E. Young, Editor, *Farmers Review*, Chicago.

J. Brown, Editor, *Drovers Journal*, Chicago.

Every speaker endorsed summary slaughter as the most effective and economical plan. Those who had had experience in combating the disease declared that the quarantine method has never proved satisfactory, but on the contrary has been even more expensive in the end than direct loss through slaughter would have been.

The consensus of opinion of these speakers, both experts and laymen, was that Illinois' authorities had adopted the proper course when they began to kill infected and exposed stock. No criticism of the campaign waged by Illinois officials was even intimated. Many urged them to proceed with even greater dispatch and thoroughness to eradicate the epidemic by this drastic measure.

They referred to the suddenness and the extensiveness of the outbreak which has taxed the resources of both Federal and State governments.

The very limited number of inspectors in the Federal and State services who had had sufficient experience to diagnosis the disease readily should always be taken into account in any discussion of the early treatment of this scourge in Illinois.

Another fact of the greatest importance was brought out by Prof. Mumford, when he said that the general situation throughout the country is well in hand, and there is little uncertainty as to the outcome, except in Illinois, where the contagion has been most virulent and extensive.

"Already," said he, "more than 500 herds have been exterminated. Of the herds reported diseased less than 25 remained alive on January 12, in addition to the National Dairy Show cattle, held in quarantine for experimental purposes."

In these addresses will be found a conservative and dispassionate discussion of all the questions which the epidemic has raised, not only in the minds of the laymen, but of the stockmen as well.

The reasons for slaughter as against quarantine, why quarantine is not effective but is as expensive as slaughtering, the duty of the State to reimburse the owners of slaughtered stock, the seriousness of the disease in its effects on the general public, even to those most remote from it, how and where it touches our food supplies and diminishes our accumulations of material wealth, the characteristics of the contagion, the many ways in which it may be disseminated, its history in this country, the means which have been taken to combat it without slaughter; these, and many other subjects will be found fully and intelligently treated, in this little book, by the highest and best authorities in veterinary medicine and animal husbandry in the United States.

For these reasons these addresses are printed by the Secretary of State, under authority of the Forty-ninth General Assembly of Illinois.

TUESDAY, JANUARY 19, 1915, 2:00 O'CLOCK P. M.

SPRINGFIELD, ILLINOIS.

House met pursuant to adjournment,

Secretary of State L. G. Stevenson in the Chair.

THE CHAIR: The House will be in order.

I believe that every person in this House recognizes fully that the live stock interests of the State are in serious danger, and unless something is done, radically, vigorously and immediately, it will soon be in a condition which money cannot change. The disease has been successfully dealt with in several counties. The Federal Government, as I understand it, has entire charge of the quarantine, and our State, under the direction of the State Veterinarian, Mr. Dyson, is actively cooperating with the Federal Government.

This matter I know has caused Governor Dunne an immeasurable amount of anxiety as it has also all others who are deeply interested in the welfare of the State. I know also that he has consulted many eminent authorities regarding the method of treatment—quarantine and the so-called slaughter—and, without exception, every man he has consulted has approved the course of the Federal and State governments.

Further than that, the Governor and the Board of Live Stock Commissioners have gone outside of the State and invited to address us men eminent in their line, men who have had extensive experience with this disease, and one or two of them have successfully coped with it. These gentlemen will address us later and I am advised will be glad to answer any questions which are pertinent to the situation.

It is my pleasure to introduce a man who has devoted his time untiringly to the solution of this problem—Governor Dunne [Applause].

GOVERNOR EDWARD F. DUNNE.

Gentlemen of the Senate and the Assembly:

Last Friday, I believe, or Thursday, a committee of this House, or rather members of this House—because I recognize the fact that the House is not yet organized—but several members of the House who are either stock raisers themselves or who are very much interested in the stock raising industries of this State were kind enough to call upon me in my office in this building to consult with me with reference to the course that has been pursued, and the course that is being pursued, and the course that will be pursued in the effort to eradicate the hoof and mouth disease in the State of Illinois. At that conference it was suggested by these gentlemen that it might be wise if I could place at the disposal of the House and members of the Senate, such information from scientists as might be at my disposal, so that the farmers and stock raisers of the State of Illinois, through their representatives in the Assembly, might be informed of the present status of the

treatment of the foot and mouth disease and what would be expected in the future. I told them with much pleasure that I had just anticipated some of their requests; in other words, prior to that time I had extended an invitation to Dean Moore, dean of the veterinary college attached to the University of Cornell, in Ithaca, New York, and Mr. Marshall, State Veterinarian of the great state of Pennsylvania, who had had the experience derived from two struggles in the past with the foot and mouth disease; and that I was about to invite Mr. Goodwin of the "Breeder's Gazette," who, while not an expert, because of the fact that he owned, edited, and managed a paper devoted exclusively to the live-stock interests of this State and the Northwest, was a man that probably was as well informed upon the scientific status of this fight as any one.

I am pleased to say, gentlemen, that I have here today with me, prepared to lay before you their views on the subject, Dean Moore and Mr. Marshall, and a telegram of regret from Mr. Goodwin. I feel that you could not get better scientific information in the United States outside of the Federal department—The Bureau of Live Stock Industry at Washington—than the information you can get from these scientists.

Mr. Goodwin telegraphed me that he could not be here and I would like to read his telegram as showing what he thinks of the course pursued both by the Federal and State authorities in the management of the foot and mouth disease. It is addressed to me and dated January 14th:

"Am just leaving with my family on my winter vacation and cannot go to Springfield as you request, and could not qualify as an expert witness. The policy adopted by the Federal and State authorities in dealing with the foot and mouth disease will be supported strongly by the Breeder's Gazette."

"W. R. GOODWIN."

As you are all aware, gentlemen, this outbreak took place about the first of November and I want to say to you that it did not originate in the State of Illinois. The disease entered this State from Southern Michigan and Northern Indiana and was suddenly discovered in the Stock Yards at Chicago. Immediately upon the discovery of this disease in the State of Illinois both the Bureau of Animal Industry at Washington and the Live Stock Commissioners of this State and Mr. Dyson, the State Veterinarian, promised coordination for the purpose of promptly treating this disease and, I believe they have done so with great success. I did believe about the 20th of last month—owing to the fact that we had most of the tainted herds of this State exterminated and placed under ground, and the herds that were infected and not slaughtered did not exceed 20 in number—that we had the foot and mouth disease under control. I anticipated that I would be able to say to you in my message, when this body is organized and when I can deliver that message to you, that we had it under control and that it was practically exterminated in the State of Illinois.

Since that time, however, things have somewhat changed. The disease, to our great surprise, has spread, and my last information—twenty-four hours ago—is that there are about twenty-five or twenty-six herds still affected in the State of Illinois.

The policy pursued from the start, as I have been advised, is the only successful, scientific, and thorough way of exterminating the foot and mouth disease. So I am advised by the Federal authorities, through their representative, Dr. Bennett, and so I am advised by the State Veterinarian, who, when he was appointed, I ascertained had as good credentials and qualifications for the position as I could find in the State of Illinois as a scientist in that line. The advice given to me from the start has been that to successfully exterminate the foot and mouth disease it is necessary to slaughter not only every animal infected but every animal in the herd that has been exposed to the infection, and that policy has been pursued, acting upon the advice of the scientists, from the time when we first discovered the outbreak in the State of Illinois down to the present time. In carrying out that policy it has occasioned some discontent, some uneasiness, some dissatisfaction. I do not wonder. When I was first told by the scientists, about the first of November, that it was necessary to kill every animal in the herd when only one or two was infected I was shocked. I did not think it could be possible that that was the only way to treat this disease and exterminate it, but I have learned since that time from every scientist that I have consulted that that is absolutely the only safe way to treat this disease. I have been informed in the great empire of Great Britain that they started by quarantining the affected herds and that it was found to be a failure, and that the British government, following the precedents established by this republic, now insists, in its treatment of the foot and mouth disease, that not only the animal affected but every animal exposed has to be slaughtered and placed under the ground.

It is not a new question to the scientist of this country, although it may be new to some of us. This is the sixth outbreak of this epidemic in the United States, and on five different occasions the Federal authorities have combated this disease, and on different occasions they have succeeded in eradicating it, but only by the slaughter of the entire herd, both those affected and those exposed to the infection.

Gentlemen, I am glad of the kindly invitation extended by this conference of members who waited upon me, and I am very glad to place at the disposal of this body such scientific information and such knowledge as these gentlemen possess, because you and I and all of us want to do what is best for the stock raising interests of the State of Illinois and of the United States.

It is not a question alone for the State of Illinois. This epidemic has already affected 18 states and because of its wide-spread character and the excessively contagious character of the disease I have reached the conclusion that it ought to be a matter of National rather than State concern. If war were declared upon the United States the Federal Government, under the Constitution, would be compelled to take up the defense of this country and not leave it to the individual states. The foot and mouth contagion has declared war upon the cattle raising industries of the United States and I believe it so wide-spread and of such a National character that the matter ought to be handled by the Federal Government in case of future outbreaks of this character, and I am pleased to say, my friends, that from the start to the finish, so far as the attempt to suppress the foot and mouth disease in this State,

there has been entire coordination and harmony between the Federal and State authorities, and there doesn't seem to be any difference of opinion between these authorities that the only way to exterminate this disease is to slaughter every animal which has been exposed. That is the only issue before us and you and I want the stock raising industries to understand it.

It has occasioned great losses to all the farmers, and the Federal Government has tendered, pursuant to its past policies, one-half of the losses of the farmers, and I have urged our two United States senators to expedite that appropriation so that these moneys which are to be paid out by the Federal Government are paid out as soon as possible. Out of due courtesy to the Legislature I do not want to anticipate my message, but I can properly say that I have made certain recommendations in my message in relation to this matter, so far as the State of Illinois is concerned, that I think will meet with the entire approval of the cattle raising industries of this State.

I will ask, my friends, that you now hear from the gentlemen who have made a study of this matter and who are professionally much better able to present their views upon this matter than I or any other untrained or unscientific person can, and I will ask Dean Moore, of the Veterinary College of the University of Cornell, to address this house upon the issue. [Applause.]

Gentlemen, the professor has been dean of the veterinary college of the University of Cornell for the last six years, and he has written several treatises on these diseases, one of which I had the pleasure of reading.

PROFESSOR V. A. MOORE, Dean of the Veterinary Department, Cornell University, Ithaca, New York.

MR. CHAIRMAN: When I was invited to be here today it was my understanding that I was to appear before a committee and be questioned rather than to make an address to a body of this kind. However, on consultation with the Governor and State Veterinarian, it seems to be their wish that I make a statement to you concerning the foot and mouth disease.

Foot and mouth disease, while new to the people in the middle and farther western section of this country, is not new to the veterinary profession. It is supposed to have had its origin in the Orient and to have gradually traveled westward until by the middle of the eighteenth century it had spread over the entire continent of Europe and to the British Isles. Since that time great effort has been made on the part of the European governments to eradicate it from their countries. It has on five previous occasions made its way to this country. These occurrences were in 1870, between 1880 and 1883, 1884, 1902, 1908, and 1914.

Foot and mouth disease is perhaps the most easily spread infectious and communicable disease of domesticated animals. It attacks chiefly ruminating animals and pigs, although other species are not entirely exempt from it. It is caused by some specific agent, the exact nature of which we do not know. It will pass through a Berkfeldt filter and

for that reason its cause is known as a filterable virus. It is an eruptive fibre and belongs to the class of exanthematous diseases akin to small-pox, measles, scarlet fever, and the like. It begins with a rise in temperature, which after one to two days is followed by the eruption of vesicles on the lips, gums, inside of the cheeks, and tongue; in cows on the teats and on the inter-digital spaces; in swine it frequently does not attack the mouth. In a few days these vesicles break, leaving a raw and usually deeply reddened surface. After the vesicles have broken the characteristic of the disease has disappeared and its diagnosis becomes more difficult. Unlike other infectious diseases of this class, immunity following it is very slight; cattle often suffer from a second attack within a few weeks.

The period of incubation is said by most authorities to be from three to six days. In the present outbreak evidence has been accumulated to show that it may be much longer.

Another point of interest is the rapidity with which the disease runs its course and the promptness with which the lesions in the mouth will disappear. The mortality is very light. It is given by different authorities at from one-half of one per cent to ten per cent, but occasionally there are outbreaks in which the mortality is very high. The sequelæ of the disease may be varied. While many animals recover, a considerable percentage of them develop abscesses in the udder and in other cases the hoofs drop off. This latter seems to be particularly true of hogs.

While the disease is not in the beginning very serious the secondary lesions that follow, together with the loss of milk and flesh during the disease, render it one of the most serious of the infectious diseases of animals.

Dr. Cope (Seventh International Congress of Veterinary Surgeons, Baden Baden, 1899, vol. I, p. 184) stated at the International Veterinary Congress at Baden Baden in 1899 as follows:

"It is true that foot and mouth disease rarely assumes a fatal character, but the fact that nearly all classes of animals on the farm are susceptible renders the neighborhood losses much greater in the case of foot and mouth disease than *rinderpest* or pleuro-pneumonia, which only affect cattle. In my country, where it has existed for at least 50 years, it has caused enormous loss and inconvenience, greater than that of all the other contagious diseases combined."

This is an exceedingly important statement when we call to mind the statement of Dr. Gangee, that because of the neglect on the part of the British government, *rinderpest* and pleuro-pneumonia had cost Great Britain and her colonies more than four hundred million dollars.

Hafner stated, at the same congress, concerning the ravages of this disease in southern Germany, that:

"Foot and mouth disease had prevailed almost continually in Germany for a long series of years and it had caused losses much greater than all other episodic diseases combined. It had also been found that the disease, instead of following a benign course as formerly, had, during recent years, become very malignant. In fact in numerous sections hundreds of cattle had suddenly died and certain estates had lost from a third to a half of their stock."

The seriousness of the secondary lesions that follow this disease may be understood from the following statement from the report of the outbreak in New England in 1902 (Report of Bureau of Animal Industry, 1902).

"In Massachusetts a number of herds were preserved which had the disease in a mild form and which had apparently recovered at the time the inspection was made. In about one-third of the cases where the owners afterwards came in with the statements that relapses had occurred with their animals, some were again affected with a formation of vesicles and most of those had abscesses in the udders which made them unfit for milk production. At the time these cattle were slaughtered the udders of many of them were so distended with pus that they were ruptured as the animals fell and discharged vast quantities of this liquid."

In order to show that the general character of the disease is not always mild it should be stated that it was not until 1875 that it was classified in Denmark as a "malignant, infectious disease." It is now regarded in that country as one of the most harmful diseases among domesticated animals and the greatest efforts are now being made to keep it in check.

In addition to the serious udder and feet trouble, Professor Bang makes the further statement:

"It may be added that in nearly all outbreaks some cows contract inflammation of the udder, with the result that many of these cows become more or less worthless for milking; some cows get a malignant and persistent hoof complaint which weakens them generally. Furthermore a number of young calves and pigs die, as well as adult animals occasionally; abortion is also liable to occur; and all this without taking into account the emaciation caused by the disease. There is thus every reason for treating the disease and doing everything possible to prevent its gaining firm footing."

It is important to understand the means by which this disease is disseminated. As already stated, it is one of the most infectious diseases of which we have knowledge. As the virus or "seed" of the disease is discharged from the infected animal, it is readily understood that the diseased animal is the most important means of carrying the infection. It is also recognized, and very extended experiments by Professor Hess of Berne, Switzerland, prove, that animals that have recovered from the disease are still able to transmit it for a variable length of time. Professor Hess found that animals that had apparently recovered gave off the germ of the disease five months later. Here, then, we have a carrier exactly similar to the typhoid carriers, or the diphtheria spreaders, of which you are all familiar. In addition to the diseased animals and those that had apparently recovered the germs of the disease are transmitted frequently on the clothing of men who are caring for them, and by pigs, cats, and birds. As the germ is able to live for a considerable length of time it can be carried on hay, grain, feed bags, or any other articles that may come in contact with the diseased animal. Milk from infected herds and milk cans that have come in contact with such animals also spread the virus. It is necessary, therefore, that every article that

may become contaminated by the diseased animals should be kept away from sound cattle.

Although the cause of foot and mouth disease is not definitely known it has been shown that it will be destroyed in the saliva of the diseased animals when it is kept at a temperature of 37 degrees centigrade for a short time, but it has been known to retain its power to produce disease for a period of several months when kept at zero temperature centigrade.

The economic importance of foot and mouth disease is not generally understood. Because it has a low mortality, people sometimes think it is of not much importance. Professor Bang has pointed out that where dairy cows recover, the cost from the loss of milk, etc., in Germany, has been 50 marks (Twelve and one-half dollars). In the Netherlands it has been shown that it cost \$20 for every sick animal that recovered. Prof. Bang has pointed out that "there are many instances of the disease developing a very malignant character, with a mortality of from 5 to 50 per cent among adult animals, and from 50 to 80 per cent among young animals. Malignant foot and mouth disease of this kind is most apt to attack dirty and overcrowded farms, but they may also occur under favorable hygienic conditions. The disease may also occur in a very malignant form with numerous sudden deaths reminiscent of anthrax. Such epidemics have been observed in many different countries, both in former and recent times. In 1839 2,000 head of cattle died in the cantons of Berne and Fribourg in Switzerland; in 1872 in the French Department of Nièvre, more than 20 per cent of the calves and over 22 per cent of the pigs were destroyed by the disease in the course of two months. In the summer of 1892 there died in Bavaria, over 3,000 head of cattle, and in 1896 in Wurttemberg, 1,500; at Barcelona, in Spain, there died in 1901 50 to 70 per cent of the young cattle. In Transylvania 711 out of 7,498, or 9.4 per cent, were destroyed in 1899."

He also mentions a number of other places in Europe where the mortality ranged from 10 to 50 per cent. He then continues:

"However, it is not these apparently rare cases of great mortality that cause the chief trouble. It is the acutely infectious nature of the disease which makes it so serious. When it is left alone it spreads to an enormous number of farms and with the present quick and easy means of communication it might quite easily extend to nearly all the farms of a country or province, with the result that the aggregate of numerous small losses represents in the end an enormous sum. Thus the loss suffered by Germany in 1892, when over 1,300,000 head of cattle, over 2,000,000 sheep and goats, and over 400,000 pigs were reported to be infected, was estimated at over one hundred million marks (\$25,000,000). And this year, 1911, the loss is sure to be much greater."

The most important question before the people of the United States is the method of control. There are but two methods that are possible, namely, quarantine and eradication by slaughter. The quarantine method is the one that is adopted in Europe, and after years of trial it

was reported at the International Congress at Baden Baden in 1899, by Hess, of Berne, who stated:

"The diseased animals should be destroyed completely, including the heads and hair, and the exposed slaughtered under police supervision."

Dr. Cope, of England, speaking of an outbreak in that country, says:

"It was eventually stamped out in the County of Kent by the purchase, slaughter, and burial of several of the affected flocks."

Prof. Dammann, of Hanover, at the same Congress mentioned, said:

"Without an absolute quarantine of the infected farms, preventing even the movement of persons, the control of foot and mouth disease is not to be thought of"; "but this measure," he says, "cannot be executed."

He further said that the

"very severe requirements of the sanitary law has not succeeded in eradicating the disease, and notwithstanding the quarantine of the infected stables, reinforced in many cases by the quarantine of districts and even of a large zone around these; notwithstanding the very extended prohibition of animal markets and the supervision exercised over the abattoirs, dealers, stables, and railroad cars, the disease continued to prevail."

We have, then, the evidence that in countries where the disease has grown up its control has been found to be impossible through any quarantine that can be imposed, and in place of this Europeans have recommended slaughter of infected and exposed animals and a thorough disinfection of the infected premises.

In view of the unsatisfactory experience in Europe under the quarantine system, this government adopted the policy of permitting eradication by means of the slaughter of the infected and exposed animals. This was first applied in the outbreak in 1884 in Portland, Me.; it was successfully employed in the 1902 outbreak in New England, and in the 1908 outbreak. It is this method that the government has adopted in the present most serious of all outbreaks in the United States. It has been largely successful and it is believed that it will be entirely so. There seems to be no other way by which this disease can be rooted out of the country, other than to destroy every carrier of the virus and the disinfection of all contaminated places. It should be clearly understood that in eradicating this disease the first cost is the least. Should foot and mouth disease be allowed to remain in any section of this country it would cause a quarantine to be placed upon the whole country by other nations, and in this country it would very likely cause the state or states in which the disease continued to remain, to be quarantined by other states. We cannot afford to have the disease in our land. Thrice it has been entirely eradicated by this method, and there is no reason to expect that for the fourth time it will not be entirely removed from this country, and the lessons that I hope we have learned from it will enable both states and Nation to adopt such measures in the future as are necessary to forever keep it away.

I thank you for your kind attention and trust that these somewhat rambling remarks on the nature and control of this disease may be of some assistance to you.

QUESTIONS ASKED MR. MOORE.

Q. I would like to ask the doctor what effect this disease has on sheep and horses?

A. Foot and mouth disease is a disease of the cloven-footed animals; they suffer more than the other animals. Horses are said to be affected at times, but they are not so susceptible, apparently. Now one claims that these animals will contract the disease if they are infected, but because of the habits of horses they have rarely become infected; but I believe it is generally considered a disease of cattle, sheep and swine.

Q. There is one school of scientists who believe that the only cure and the only way to prevent the spread of this disease is by slaughter. I want to know whether there is another school of scientists, who, if they were addressing a body such as this, would claim that it was not necessary to slaughter the infected animals, but that the disease could be cured and checked by quarantine?

A. I don't know of any body of that kind. There is this fact that Dr. Law says, that he believed that if a quarantine sufficiently rigid to prevent the escape of the virus from the infected premises could be maintained long enough for any virus left on the recovered animals to die out, that it would check the disease. It is difficult, in fact impossible, to state what percentage of herds there would be in which the subsequent infections would not develop, and under these conditions he believes that the disease could be controlled by quarantine; but as pointed out by Prof. Dammann and others, in a country where there is a much better control of the people than in the United States, such a quarantine is absolutely impossible.

Q. Who is Dr. Law?

A. Dr. Law is at Ithaca. He came there in 1868 and was professor of veterinary medicine there until 1896, when he was appointed dean of the veterinary college and held that position until six years ago when he retired. He is now 76 years old.

Q. Did you succeed him?

A. I succeeded him as Dean of the College; yes, sir.

MR. STEVENSON: Dr. C. J. Marshall, Professor of Veterinary Medicine, University of Pennsylvania, is recognized by all readers of Live Stock Journals as authority on all matters pertaining to live stock sanitation. He is peculiarly well fitted to address us today, inasmuch as he has entirely eradicated the foot and mouth disease in the State of Pennsylvania on two occasions.

APHTHOUS FEVER.

By C. J. MARSHALL, State Veterinarian, Pennsylvania.

In the fall of 1908, there was an outbreak of foot and mouth disease in Pennsylvania. It originated in Michigan and was carried to various parts of Pennsylvania by cattle shipped from Buffalo. There

were eight separate and distinct points of infection received about the same time. The infection extended over an area of 100 miles in length and in the part of the state where animal husbandry is most extensively practiced. The infection was found on 100 farms, 1,320 head of cattle, 877 swine, 52 sheep and 3 goats were diseased or exposed to the infection. They were appraised at \$57,702.49, promptly killed, buried, and the premises were disinfected. The cost of disinfection averaged about \$100 per herd. All told this outbreak cost a little over \$86,000. The Federal Bureau of Animal Industry and the state paid the balance. It required three months to stamp out the disease.

The state was then free from apthous fever for a period of six years. In the fall of 1914 another outbreak occurred which was much more extensive. Two herds were quarantined in Lancaster County on October 23. One affected animal was discovered in the Pittsburgh stock yards on the same date. These yards were quarantined on the 24th of October. Since that time the disease has been found in 27 counties on about 650 farms. We have destroyed something over 10,000 head of cattle and 6,000 hogs. The total expense will run close to \$750,000.

The plan adopted in the previous outbreak was to locate diseased herds, place them in quarantine, appraise all cloven-footed animals on the premises at full market value whether diseased or not, kill and bury them under 6 feet of earth, disinfect the premises and hold the premises in quarantine for six weeks after the disinfection. This work was all done in a period of three months. Some did not agree fully with this policy, yet there was no serious objections that delayed or hindered in any way the progress of the work. There were not sufficient funds in the treasury at the beginning of the outbreak to meet the obligations. The money was promptly appropriated by the legislature. The Federal and state governments were able to pay all just claims in a short time. The management of the outbreak was satisfactory to all parties concerned.

When the present outbreak occurred the members of the State Live Stock Sanitary Board voted unanimously to handle it practically in the same manner that had been successfully followed in the previous trouble. There has been very little opposition to the work of eradication this time. The only object in nearly every case has been to clean out and clean up as soon as possible. The work has progressed rapidly. At the present time there are but four known infected herds in the State. These we hope to bury and finish all the disinfection by the end of this week.

We are in entire sympathy with this plan of handling the disease and approve fully of what the Bureau of Animal Industry is doing to exterminate it. It may be possible to work out some better plan to handle future outbreaks if they should occur.

With the work so nearly completed in all infected states we feel that it would be a mistake to adopt any other plan at present. We realize that the disease is not highly fatal and that recovery will take place in a high percentage of cases without even a learned course of treatment. It is one of the most highly contagious diseases of cloven-footed animals and while the death rate is comparatively low the losses to animal industry are considerable. The disease has gained a foothold in nearly all European countries and it is practically impossible for

them to adopt our method for exterminating it. All countries except the British Isles handle it by close quarantine. It is necessary to hold infected herds in quarantine for something over three months. A recent investigator in the Netherlands, where the disease is common, has shown that it costs practically \$20 per head in each infected herd to handle the disease in quarantine. This is the best they can do after many years of experience in trying to control it by the quarantine method. Their expense is figured on the loss in milk production, loss in condition of meat producing animals, loss from work in oxen, death from the disease, and extra care given to those that are sick. It is doubtful if a herd owner in this country could afford to have apthous fever in his herd for \$20 per head. If this method were adopted there would be constant unrest in the neighborhood. It would be necessary to increase the inspection force to locate new centers of infection. The quarantined herds should be under constant Federal or state supervision. Neither the state nor Federal Government could be expected to remunerate the owners for losses sustained during the course of the disease. It has been demonstrated in all foreign countries that this method will not exterminate the disease. We cannot hope to do something that they have failed to accomplish. It will take us years to develop veterinary sanitary police regulations for handling apthous fever by the quarantine method that is as good as theirs. We cannot afford to even experiment with it. It would be a calamity to the cattle, swine, and sheep industry of this country to have this disease get beyond our control.

Every state should be prepared with laws, rules, regulations, agents, and money to fight apthous fever, *rinderpest* and all other transmissible diseases of live stock. The fight should be determined and persistent. A herd owner should not be a menace to his neighbors and no state should send apthous fever, hog cholera, tuberculosis, glanders, etc., to other states to jeopardize their live stock interests. This can be prevented to a great extent if each state will do its part. It can't be done without efficient official supervision and a strong public sentiment on the part of herd owners in favor of genuine cooperation with Federal, state, and local authorities.

MR. STEVENSON: There is no man in the State of Illinois, whose influence goes farther than that of Dr. Mumford, Professor of Animal Husbandry, at the University of Illinois. I am a farmer myself and for six years I have gone to Champaign for two weeks each winter to listen to his lectures on stock raising. I feel I can say without exaggeration that the breeders and feeders who have followed his advice during the last few years have now profited greatly.

A CRISIS IN THE FOOT AND MOUTH DISEASE SITUATION.
By H. W. MUMFORD, Professor of Animal Husbandry, University of Illinois.

(Communication from the Agricultural Experiment Station, University of Illinois.)

There are two sides to every question upon which men differ honestly and at present there are differences of opinion between many of the

cattle owners on one side and the Federal Bureau of Animal Industry and Illinois Live Stock Commission on the other regarding the best method of combating foot and mouth disease. The Agricultural Experiment Station recognizes that this is a crisis and feels that a clear statement of both sides may aid the public generally to a better understanding of the present situation.

A brief outline of preceding events may serve as an introduction to this statement. Spreading from a single point in Michigan the foot and mouth disease was distributed from New England to Montana within a month and it was plain that if not checked it would reach practically every herd in the country within a short time.

The Federal Bureau of Animal Industry and the various State Live Stock Commissions who are charged with handling such matters were not organized to control an outbreak of such magnitude. At that time there were but few men in the United States available as inspectors who had ever seen a case of this disease. Under such circumstances it is to be expected that mistakes in diagnosis would be made. Starting in late October with what seemed a practically hopeless situation the centers of infection have been located and removed until the general situation is now well in hand and there is little uncertainty as to the outcome except in the State of Illinois. Here the infection had been heaviest and something over 500 herds have been destroyed in combating the disease in this State. Of the herds reported diseased less than 25 remained alive on January 12, in addition to the National Dairy Show cattle held in quarantine for experimental purposes.

Where even a single animal was found diseased the entire herd has been slaughtered and the Federal authorities have agreed to pay one-half of the appraised value of the slaughtered animals, there being an understanding, but no legal provision, that the State would pay the other half. The large financial loss incident to this slaughter and the uncertainty created in the minds of other cattle owners as to the possibility of their being the next victims have created a very panicky feeling in many communities.

The cattle owners feel that they have been made to bear unnecessary burdens by this program of universal slaughter. They point out that in many of the herds, particularly in the National Dairy Show cattle, the effect of the disease is so slight as to be hardly noticeable to the casual observer and the death rate has been extremely low. They urge that a way be provided for saving the cattle, particularly in the cases where the herds represent the results of years of careful breeding.

There is also dissatisfaction on the financial side. The appraised values, while not seriously below the market value of the ordinary animal, do not cover the breeding value of the animal or the disorganization of the farm business which has resulted from the destruction of the herds. The latter is especially important upon the dairy farms where the farm plan calls for a herd to consume the forage. Where the cattle are destroyed they cannot be replaced under present conditions both because the traffic in cattle is stopped and because it would be unwise to at once restock the infected farms. Accordingly the crops can not be consumed upon these farms as usual. On the other hand, there is no market for these forage crops because of the danger that they may transmit the disease. As a result of the loss of their cattle and the market

for their crops such dairy farmers are losing heavily, if not facing actual financial ruin.

Neither does this valuation cover the accessory expense and inconvenience incident to the destruction of the herds. In some instances weeks have elapsed between the date of diagnosis and slaughter and another long period before the final disinfection of the premises. During this time a strict quarantine was maintained which hampered the people upon the farm and prevented obtaining assistance for the necessary farm operations. This quarantine has been continued in a modified form long after the final disinfection. Finally the money promised by the government has not yet been paid and the State has as yet had no opportunity to provide for payment of the other half.

However, the foot and mouth disease must be recognized as one of the most costly animal scourges. In many herds in this State the disease has appeared in a mild form and consequently many stockmen have not realized the seriousness of the outbreak. The fact is that when stripped of all exaggeration it far exceeds either tuberculosis or contagious abortion in the havoc which it works and the ease with which it is spread. It produces little or no immunity so that ravages of the disease occur at short intervals. With the present narrow margin of profit in the meat and milk business, the carrying of the additional burden of foot and mouth disease would be impossible without a rise in the price of both milk and meat. Accordingly if the disease became general the burden of this new state of affairs would fall not only upon the farmers, but upon the consumers as well. Since the various elements of cost have now forced meat to an almost prohibitive price, there is reason to expect that this added cost would seriously cripple if not practically destroy the fat stock industry of this country. There is no question, therefore, but that it would be good business policy to spend vastly more than the present struggle has cost rather than settle down to foot and mouth disease as an added burden to the animal industry of these United States.

The objection to quarantine as a method of combating the disease is that it is both difficult and expensive to maintain, especially when the disease is so extremely contagious. Such a quarantine is now being maintained in connection with the Dairy Show cattle at Chicago and notwithstanding the unusual value of the animals the expense has been so great that it is a question whether the owners would not have been better off had they accepted the appraised value of the cattle in the regular way and submitted to slaughter at the beginning of the outbreak. On an ordinary dairy farm the expense of maintaining an efficient quarantine coupled with the difficulty in marketing the product would make the quarantine method of handling this disease more expensive than the present slaughter method. The apparent recovery of the Dairy Show herd has been so frequently referred to as a successful result of the quarantine method of handling the disease that it seems desirable to point out that the careful and rigid quarantine maintained and the sanitary and professional care with which the cattle have been surrounded would be absolutely impossible on the average farm.

Even where quarantines are carefully conducted they become a menace to the surrounding farms because the infection can be carried in

a mechanical way by birds and by hunters as well as by cats, dogs, rats, mice, and rabbits. The difficulty of maintaining an effective quarantine is such that any attempt to do so on a large number of farms would be practically equivalent to abandoning the effort to eradicate the disease.

The present outbreak of foot and mouth disease does not differ from those which have preceded it in any way except in being originally more widespread and consequently more difficult to suppress. The method of procedure which is now being employed is precisely that which has been successful in suppressing previous outbreaks and the results thus far attained indicate that the present outbreak can be controlled by this means.

Under such circumstances it seems the plain duty of all who have the welfare of the live stock interests at heart to unite in supporting the effort to eradicate foot and mouth disease from this country.

MR. STEVENSON: Dr. S. E. Bennett represents the United States Bureau of Animal Industry and is now in charge of the work of the Federal Government in the State of Illinois.

In response to a request from the Governor and the Live Stock Board he has agreed to tell us the Federal Government's attitude in this matter.

DR. S. E. BENNETT, Inspector for the United States Bureau of Animal Industry in Illinois.

MR. CHAIRMAN: This is one of the greatest pleasures of my life—to be here this afternoon. Now, I have always wanted to go into some legislative hall and look over the members of the Legislature. I have had the impression that legislators—from cartoons I have seen and articles I have read about you—were men going about seeking whom they might devour, and a great many of you, from the newspapers and cartoons, may have the same impression of us. I am agreeably surprised this afternoon to see so many bright and intelligent faces.

I am here to represent the United States Government, but would rather be out in the field working than doing this. The policy of the United States Government has always been, in matters of this kind, very radical, and I think I am one of the most radical representatives they have.

It has been my good fortune, or misfortune, to have "budded" into three outbreaks of the foot and mouth disease. I was sent to Massachusetts at one time, and had been there only a short time when the foot and mouth disease broke out, and wherever I was sent they had an outbreak of that disease.

Afterwards I was sent back West, and was on a trip East and stopped in Buffalo, six years later, where they had another outbreak of the foot and mouth disease. I had a nice easy job in Indiana, and last fall they transferred me to Chicago. I was thinking what a nice time I was going to have in Mr. Shurtleff's district, getting rid of tuberculosis, and then I ran into the foot and mouth disease again.

Generally the policy we have adopted has been a radical one. We think the only thing to do in a case of this kind, is to slaughter and have a very strict quarantine. We know, of course, it causes a great many people a good deal of inconvenience. We do not contend that this disease is necessarily fatal. Statistics show that ordinary forms of the disease probably kill about 3 per cent of the animals infected. That is not the question. The question we are contending with right now is whether we want another animal disease in this country that causes such an enormous loss. We have various diseases that affect the live stock—tuberculosis, anthrax, measles, and hog cholera—and various other diseases that affect live stock in this country. You perhaps do not know that about 15 per cent of all hogs that go to Chicago are affected with tuberculosis; 6 per cent of all cattle that go there are affected with tuberculosis, and that 3 per cent of all cattle are affected with measles. It has been estimated that the outbreaks of cholera have cost the swine breeders of this country about \$65,000,000 per year. We do not think we need another disease in this country at all; we think we have all we can handle and pay for, and what we are trying to do right now is to prevent the foot and mouth disease from getting a permanent foothold. You have heard from the other gentlemen that this is a serious proposition, although it does not kill the animal except in a few instances, and we have come to the conclusion that quarantine in a country as free as ours is practically impossible. You cannot get a farmer to tie up his cattle and take the necessary precautions that are required to keep this disease in check. He will get away from it in spite of anything you can do. That has been the experience of all the countries where this disease has been found. It will be our experience. We have not the sanitary police organizations that they have in other countries. We have been successful in coping with the disease heretofore, and have stamped it out in every instance. We have just now the largest outbreak we have ever had; it has appeared in 18 states, and in the State of Illinois alone we have slaughtered 539 herds of cattle. It appeared in 53 counties. Thirty-three have already been cleaned out and we are working in the other counties. We are inconvenienced a little in this work at the present time, owing to a little unpleasantness, but hope to have that adjusted pretty soon. We are also having isolated cases reported here and there, but most of the difficulty is now in three counties, where we have met with the most opposition. It is not our intention, gentlemen, to antagonize the farmers. Of course, in a great many instances they have received bad advice and they have not come, probably, to the proper place to get straightened out, but in every instance where we have had an opportunity to talk with these farmers and explain our object we have had no difficulty with them. We have assured them that they will get their money from the government, and we have assured them that any property we destroy in the matter of cleaning and disinfecting, any feed and fodder that belongs to them, they will be reimbursed for, and when they understand it in that way, we discover that they as a rule are a pretty good bunch of people. They realize the importance of this thing. I know it looks pretty hard, and probably I understand as well as anybody what it means to a live stock producer to have a fine herd of cattle led out and slaughtered, but at the same time it means a whole lot more to a great many other people in case we do not eradicate this disease.

And when we think of the enormous value of the live stock interest in this country, if it costs the United States Government \$50,000,000 to eradicate the foot and mouth disease, the money is well expended. For this reason we must have cooperation from all sides, and we must have hearty cooperation. If the farmers are badly advised by people that probably do not have their interests at heart, only to a certain extent, it necessarily works a hardship upon them, as well as everybody else. We have an example of that in Bureau County at the present time. From all indications from what the farmer has told us he had the disease about six weeks ago. It was not reported and his cattle became sick again. He got cold feet on the proposition and sent for some one, and now he is convinced that there is something to the disease. We have this information from him. He tells us the cattle are in the shape now that they were about six weeks ago, and in several instances we have learned of herds being covered up and not being reported, and that may account for the outbreaks we are having now. There may be some source of infection that we do not know about; that isn't anything to the farmers credit in my estimation, and he necessarily handicaps his neighbors, and may become a menace to the whole United States. I would rather inconvenience some people for two or three months than to inconvenience the rest of the United States for the rest of its life.

I would like to see the members get together and push this thing along, and I think you can eradicate the foot and mouth disease in very short order.

QUESTIONS PROPOUNDED TO MR. BENNETT, WITH ANSWERS.

Q. Are those animals that are affected with the disease ever driven to the market for human consumption?

A. We have found affected cattle in the Union Stock Yards at Chicago; yes.

Q. I realize they are subject to Federal regulation, but where it gets to the market, is it fit for human consumption?

A. No, we deem it as unfit for food.

Q. What becomes of the 15 per cent of hogs that are affected with tuberculosis?

A. They are handled under the Bureau of Regulation.

Q. What effect does the weather have on this disease?

A. Cold weather has a tendency to slow the disease up, it does not develop so rapidly as it does in warm weather. I remember reading of one case where they said the virus had remained active for nine months at a freezing temperature. Our object in handling this disease, is to kill the cattle, get them under ground, and clean and disinfect the premises as soon as possible, and to prevent movements just as much as possible of any live stock in infected territories. One of the worst things we have to contend with in the foot and mouth disease, is probably the class of men who do not realize the importance of it; he does not realize how infectious a disease he has to deal with. If his neighbor's cattle have become affected he naturally sympathizes with him and goes over to his neighbor's farm, thoughtlessly perhaps, and wants to give his cattle the "once over."

Q. What regulation has been necessary in interstate shipments from a district that has had the infection?

A. The present regulation in Illinois is that from the portion of the State that is in quarantine, no interstate shipments are permitted.

Q. Where the infection is stopped, how long is it before shipments can take place again?

A. After we have cleaned and disinfected and completed our inspection, it is 60 days after disinfection.

Q. Then, inasmuch as the loss would fall on all of the taxpayers of Illinois, has there been any recommendations as to the stock feeders buying and bringing in any new cattle?

A. We do not bring in any feeders in the quarantined area of Illinois; there are no feeders brought into the affected area. We do not think it is advisable to bring in cattle that we might have to buy ourselves.

Q. There are cattle brought in of this class?

A. None being brought in from outside of the State.

Q. It is the recommendation that no more cattle be bought until the disease has been eradicated?

A. It would appear to me that that would be the only policy on the part of the men in the feeding business. I wouldn't think of putting my money into it if I thought I would have to sell at less than I bought for. If the government would pay me more, I might do it.

Q. Who has done the slaughtering, the Federal Government of the State?

A. The Federal Government has been doing most of the slaughtering.

Q. Have they done all, or only part of it?

A. The State inspectors have done some.

Q. What per cent?

A. I couldn't tell you that.

Q. Approximately?

A. I couldn't tell you that.

Q. By the authority of the Federal Government, or of this State?

A. You understand we haven't any authority to slaughter in this State—the Federal Government has no authority to slaughter cattle in the State of Illinois.

Q. It is a fact, however, that the Federal Government has slaughtered a majority of those that have been slaughtered in the State of Illinois?

A. Yes, sir; and that is with the agreement between the Federal Government and the State authorities and with the owners. When we appraise a lot of cattle, the owners sign an agreement and release on 50 per cent of the valuation which he expects to get from the government.

Q. I have been told by some farmers down in my section of the country who claim to be eye witnesses, that after the infected stock had been killed, that for a period of from six to ten weeks no disinfecting had been done?

A. I don't know of any instances of that kind.

Q. It certainly would be some fault there if the stock had been killed and the process of cleaning up the premises immediately had not been followed out?

A. I don't know of any instances where premises were left six or eight or ten weeks. Our policy is to clean up the premises as soon as we can get to it. There may have been some delay. We have now in the State of Illinois about 600 men cleaning and disinfecting, and we have 12 veterinarians working with them, and we have killed cattle on 539 premises. Thirty-three counties are already cleaned and disinfected. It is quite a job, especially at this time of the year. If you have had any experience in work of this kind yourself you will realize what a proposition it is. I was in one county when the thermometer registered 29 degrees below zero, and you can imagine what a proposition it was to keep a spray pump going in that climate. The boys have been working right along doing the work as fast as they can.

Q. What percentage of the infection is removed by the slaughter of the herd?

A. You remove the active infection there at the time you get them underground, and also you prevent further infection from the saliva dropping into the troughs, in the acute stage of the disease, and prevents the virus from being carried on the attendant's feet to other places, and when the government has killed the cattle, every precaution has been taken to check it until we come up to clean the premises.

Q. But the slaughter of the animals removes a very large per cent of the infection?

A. Yes, it removes a very large percentage of the infection and the chance of carrying the infection.

Q. If the buried animal should become uncovered would there be danger of infection from it again?

A. We put them down about 7 feet and cover them with quick lime, when we bury them; we figure there is about 5 feet of earth over them.

Q. Have you buried any?

A. We have burned some and that is all right. We did that 12 years ago in Vermont. We have had cases where we had to use dynamite in order to get into the ground, it has been so cold. We used that method with 62 cattle in Vermont. I don't like the thing myself, because it is a very nasty thing to start with. The cattle have to be opened and the internal organs taken out, and the carcasses quartered, and you can imagine what kind of a mess that would make on the farm. Ordinarily speaking, that is not the method we would use in dealing with this disease.

Q. What is the total loss up to date?

A. For the State of Illinois?

Q. Yes.

A. The present valuation in Illinois to date is \$1,200,000 for the entire live stock.

Q. One-half of which is paid?

A. One-half of which is paid, yes.

Q. Isn't it true that the State and Federal officials have been working in complete harmony in the effort of stamping out this disease?

A. Yes, sir, they have been working in harmony right along.

Q. There has been no friction?

A. There has been friction over minor points, but we have adjusted those.

Q. In what way do they disinfect themselves—the men who do this work and go from one place to another?

A. We provide each one of these helpers with a uniform—with overalls and jumpers—and they are instructed, in cleaning and disinfecting premises, to leave those overalls on the premises where they are working until they are through; when they go home at night they are left there. Then, their shoes are disinfected and they are permitted to go home. In going to the next farm, all this clothing is taken and placed in a container of some kind and thoroughly fumigated before they are taken to the next place. Our inspectors in the field are provided with rubber coats, hats, gloves and boots. When they make an inspection, on your farm, for instance, before proceeding to another farm, whether they found infection or not, their hats, gloves and boots would be disinfected in a bichloride of mercury solution. They would do this whether they found any infection or not. They do it on any farm, and we do that to prevent criticism. We are criticized sufficiently anyway. We go on the assumption that if the disease broke out on a particular farm after our inspector had been there, he would certainly be blamed for bringing it there, and for that reason we take that precaution.

Q. Is it true that in any instance they permit people to take swine out of the herds for the meat, before they decide to slaughter them?

A. That perhaps would be permitted under certain circumstances—for instance, we go onto your premises and you have, say 50 cattle and some 30 hogs. If there were some of those hogs that did not show signs of the disease, we would not object to your killing a couple of them.

Q. I am asking you this question chiefly because some of the people down in my country have gotten the idea that it is not dangerous and that it is not bad, and that it is not really contagious, and I wanted to know whether, permitting them to do that, would spread the disease?

A. I know, in the Northern part of the State, where we were going to kill some cattle and hogs, the farmer asked me if he could have a couple of those hogs for his own use, and I told him I saw no objection. We made a very careful examination of them before slaughtering, and we told him we saw no objection to it at all. If I thought there would be any objection or any chance of infection, I would not for a minute submit to it.

Q. I asked this question because it has raised a feeling against the slaughter of the diseased animals in my county. It has led our people to feel it is not so bad and that slaughter is not necessary. They do not apparently understand the situation.

A. That is one time when we thought we were doing the farmer a favor, and weren't, I guess.

Q. How long a period of time must elapse before the farm can be restocked?

A. We recommend 60 days after disinfection. I have made some experiments along that line and one time I put some cows in the barn five days afterwards, to see how it worked out.

Q. What happened?

A. They stayed healthy.

Q. Now, I understand, and I have been informed by others, that this disease starts in the hoof and infection is caused in the mouth through the licking of their hoofs? Is that right?

A. No, there is nothing to that at all. There are a great many instances where these vesicles develop in the mouth, and you do not find foot lesions at all.

Q. That was for my own information.

A. Yes, but there is nothing to that at all. On the matter of restocking, we specify 60 days; we think it is absolutely safe after that time. There might be a spot in the disinfecting that the men might possibly have overlooked. We depend on nature to some extent to help us out with it. We don't mean to overlook any dark spots or corners, but we might do it, and for that reason we specify that length of time.

Q. In the matter of quarantine, how long should the premises remain quarantined after the stock has been slaughtered, disposed of and the disinfection has taken place?

A. We are perfectly willing to leave that to the farmer, after we are through with it. We fumigate and disinfect the premises, and the rest will have to be left to you.

Q. What would be the length of time that the premises would remain in quarantine after these affected herds had been disposed of and the affected premises had been cleaned up,—for what length of time after that process had been completed would the place remain in quarantine?

A. After we had located all the diseased herds, which we do just as quick as we can possibly do it, we make a house to house canvass in that vicinity within a three or five mile radius and make our inspection. After that, if we found no disease anywhere in the county, it could be released from quarantine.

Q. Then it would be within the time which you require to make such inspection?

A. It would depend entirely upon the speed with which we would make the inspection.

Q. If you could make that in a week, that would be the length of time?

A. No, 15 days between inspections, and we usually make two inspections, so that the shortest time would be 30 days.

Q. In your judgment, doctor, within 30 days after a county has been cleaned out, that county might be safely released from quarantine?

A. Yes, sir, if we found nothing in that county to indicate that it was infected, that would be the time..

Q. What is the period between the exposure of the animal to the disease and the active manifestation of the disease?

A. That varies, from three to five days. We know of cases where it has gone 26 days. I know of one case under my own observation where it went 15 days, and I know of one instance where it developed 24 hours after exposure.

Q. Doctor, isn't it a fact that the premises of these farmers will disinfect themselves in the summer time when the temperature is high and there is a good deal of sunlight?

A. Yes, that is the idea; we think sunlight and air are the best agents we have for that kind of work.

Q. Then, the winter time would be favorable to the development of the disease?

A. No, it is not; in the protected places the cold weather slows up the disease. In the summertime it will develop faster, but in those surfaces exposed to the sunlight its development will be retarded, but in other places where there is no sunlight, it will not be slowed up. The disease is slowed up in the winter time in these protected places.

Q. Do you know the cause of the foot and mouth disease?

A. I do not. I do not know of a preventative, except to get rid of it.

Q. How many "curealls" have been suggested since this disease has come out?

A. I couldn't figure it. I have a file on that, labeled the "Nut file."

Q. Is this disease plain enough so that every veterinarian can diagnose it plainly?

A. Ordinary cases are easy to diagnose; that is, the foot and mouth disease that you would recognize if you saw it once—the foot and mouth disease we all know. There are various forms of foot and mouth disease that might fool the most expert.

Q. Mistakes can sometimes be made then in the diagnosis?

A. Veterinarians are human, you know.

Q. I presume so.

A. Yes, that is one of the earmarks of the human being, they are liable to err, you know.

Q. How long after a case is diagnosed usually elapses before the slaughter of a herd of cattle?

A. Just as soon as we can have the work done.

Q. Do you allow a certain time to confirm your diagnosis?

A. Yes, as a rule we do. My instructions have been to get the hole started, because I would rather pay for the hole than I would for the cattle. If a mistake has been made we just have to put the dirt back into the hole. I have done that at times. I remember in one outbreak I paid for the digging of three holes.

Q. When you did not slaughter?

A. When there was no slaughter. We found the disease had not developed there sufficiently for us to kill the animals.

Q. Paid for the hole and not for the cattle?

A. Paid for the hole and not for the cattle.

Q. Do you always use quicklime?

A. We always use quicklime; at least that is what we are supposed to get; that is what the instructions are—to use quicklime.

Q. You never use any form of slacked lime?

A. No, not that I know of. Their instructions are to get quicklime for that work.

Q. Have you ever used slacked lime, doctor?

A. We prefer quick lime.

Q. As a matter of fact, slacked lime would not do a bit of good, would it?

A. I don't know whether it would or not. We like quicklime, because it is a better burner, and burns the carcasses very quickly.

Q. Does the foot and mouth disease develop in the human family?

A. I have never seen a case of it myself, but they claim it does develop in the human family. The danger would be in that case that

the milk would be infected coming from these infected animals, and by the milk cans coming in contact with the vehicles and the milk becoming contaminated in that way.

Q. Can you ever trace the disease from one farm to another.

A. I wouldn't want to pin that right down to as fine a point as that; I wouldn't say that a man had gone to his neighbor's farm and then gone back to his own, but I would tell you of an instance when I was in Massachusetts, where we had a stall of 103 cows, and wherever the cows went, we killed the cattle on the premises. I know of another instance where a young man in Massachusetts was called in to look at a cow. This was on Sunday. He did not suspect foot and mouth disease, and treated her as the symptoms seemed to indicate and went back home. They called me up on Monday and I went out there and found we had foot and mouth disease, and at the end of that day I found 60 cases of it, and at the end of the second day, 113. I called him up at his father's farm, of which he had charge. His father had 60 cows. I told him what I had found, and told him to go back home and take a look at his cows, and it later developed that foot and mouth disease made its appearance among his father's entire herd.

Q. Have you found that some proportion of the infection were caused by the use of diseased or infected cholera serum?

A. Not the serum. We have instances where virus had caused outbreaks of the foot and mouth disease.

Q. How many cases or what proportion?

A. Forty-two cases were found.

Q. In the entire State?

A. In the entire State.

Q. How many of those cases were from Mercer County?

A. I do not know the number of cases.

Q. What later cases were infected from that source?

A. I should judge 20 affected herds in Mercer County; I don't know what the percentage was in Mercer County. The most of it in Mercer, Henderson and Warren came through the virus, as I understand it. There were 65 herds in those three counties.

Q. How many herds have you got that were affected in McLean County?

A. Fourteen in McLean County.

Q. Is there any medical treatment that would relieve the disease?

A. The disease will usually run its course, as a rule, in about 15 days. It does not need much treatment. That is not the contention, you know. We don't claim these animals won't make a kind of recovery. We are simply trying to prevent the introduction of a new disease in this country that is going to cost an enormous sum of money if it ever gets a foothold here.

Q. Do you know whether or not they used virus on those farms in McLean County?

A. I think possibly that you had two cases produced by virus there.

Q. Do you recommend the virus treatment for hogs?

A. Yes, sir, they use the virus for them.

Q. In the preparation of this plan the great question of the people of Chicago—and it has spread widely over the city—is that in taking these hogs to the yards to make this virus, is it possible that the hogs

were affected with the cholera at the time, and also the foot and mouth disease? Or did the veterinary or inspecting agent say it was cholera when it was actually the foot and mouth disease?

A. The chances are the hogs had been exposed to the foot and mouth disease and also had cholera, but the disease had not developed.

Q. What is your opinion of treating effectively the dairy herd of cattle now in the stock yards?

A. I don't know. I don't know a thing about those cattle. I saw the first one that was taken out, but I haven't seen them since. I haven't been in that barn at all.

Q. Is it advisable for farmers to disinfect their premises where they have not been declared affected?

A. Yes, sir, that is one of the big things of the farm in this country today. There are very few farmers that realize the importance of sanitation; it is one thing the farmer should take up.

Q. You think that by proper sanitation you could stay the progress of the disease?

A. You would stay the progress of a great many diseases of that kind that we have to contend with.

Q. A herd of cattle belonging to a neighbor was killed on Saturday. A neighbor's cattle were shipped to Chicago on Saturday night. What my neighbor wants to know is how he can keep these cattle from being shipped out.

A. I do not know the circumstances. What was the relation of the two herds?

Q. They were on adjoining farms.

A. Were they in a pasture next to these cattle?

Q. Yes.

A. I couldn't tell you as I know nothing about the circumstances. The chances are, if they were allowed to be shipped, they were pretty well satisfied that they had not been discovered.

Q. They were with these cattle on Wednesday in the same stalk field?

A. I would have to look into that first, I don't know.

Q. What the neighbors are anxious to know is how they can prevent these cattle from being driven over the public highway. There are five or six miles of road along there over which this stock was driven before they were shipped to Chicago.

A. If they were mixed with the other cattle and these cattle were sick, a thing of that kind should not take place. If that is the facts in the case—and I don't doubt what you say—it should not have been allowed to have happened. Will you give me the particulars of that, I would like to find out myself.

Q. The cattle were shipped to Chicago.

A. By whom?

Q. Mr. Riding. They were shipped with a lot of other cattle.

A. Where from?

Q. Morris, Ill.

Q. In case that is true, what remedy would you prescribe to take care of the rest of the fellows and not have these cattle driven over the public highway?

A. I think a rigid quarantine ought to be put into effect there.

Q. Would you advise doing that?

A. That is something outside of the jurisdiction of the Federal Government. The quarantine is within the State of Illinois.

Q. In my county we have about the same condition, and the State Veterinarian and Government Veterinarian, cooperating together, made a county atlas, and wherever this occurred they made a circle around that farm for three miles, and quarantined everything inside of that circle and nobody was allowed to move a hoof within that circle into or out of it.

A. That would remedy the situation.

Q. A lot of the farmers over there would like a little light as to how the stock yards are operated. As I understand it, part of the stock yards are under quarantine, and those cattle coming from a quarantined part of the State are put into one division and the cattle that come from a non-quarantined part of the State are put into another division of the stock yards. Now, the farmers don't understand why such a condition of things exist; as long as all these cattle are slaughtered together. They can't see why they should be separated. It has an effect on the price of cattle and that seems to create a considerable disturbance on the part of the people throughout the State.

A. Dr. Dyson is here and he can probably explain that to you better than I can.

Q. Has there been any of that disease reported in Cook County?

A. Yes, sir.

Q. How many cases?

A. One man came out with a gattling gun and chased an inspector off, in Cook County.

Gentlemen, I thank you. I am very glad to have been here this afternoon and I hope you will come along and help us out on this.

MR. STEVENSON: Dr. U. G. Houck, Inspector of the Bureau of Animal Industry, is with us, and right from the seat of war. In fact, he is a conquering hero. He comes direct from Northern Indiana and Southern Michigan, where he has succeeded in eradicating the foot and mouth disease entirely.

DR. HOUCK: I deem it an honor to have been invited to appear before the Governor of the great State of Illinois and the representatives of the people of this State to express my humble views on a matter of so much importance to the live stock industry of the United States and this State in particular, since it is the center of the live stock interests of the country.

I appreciate the honor of being permitted to appear with such men as Dr. Moore, who enjoys an enviable reputation, not only in this country, but abroad, and is recognized as one of the foremost educators, and an authority on animal diseases; such men as Dr. Marshall, who occupies an important chair in the University of Pennsylvania, and whose opinion and advice is sought on matters of national importance relating to the control of animal diseases; such men as Dr. Mumford, also an educator

and authority; also Dr. Bennett, whose receding forelocks bares the scars of two similar foot and mouth disease campaigns. From his fluent speech this afternoon, it is evident he was at least exposed to the mouth disease in his first campaign.

Dr. Moore has today traced for our benefit the history of foot and mouth disease from Asia into Europe, and explained its cause, course and termination, and how the disease has swept over Europe in periodical waves, the great damage it has wrought, and he has called attention to the great sums of money that have been spent in efforts to control the disease in foreign countries. It appears that when the disease abated sufficiently to make it practicable, European countries have seized the opportunity to resort to slaughter in connection with disinfection as a means of eradication. It is noteworthy that the disease has never been eradicated from any country that attempted it without slaughter of the infected and exposed animals. It has, however, been eradicated from some of the European countries that have adopted the slaughter method in connection with rigid quarantine, and the cleaning and disinfection of infected premises. We have ourselves, in 1902 and again in 1908, eradicated the disease from this country in a surprisingly short time, and at a comparatively small expense by the same methods which we are using in this outbreak. I believe there is not a country in Europe but that would welcome such a situation as now faces us and consider it a favorable opportunity to resort to the slaughter measure as a part of their policy for eradicating the disease, and I believe they would gladly make the financial sacrifice, which it would be necessary to incur through the slaughter of infected and exposed herds in such new outbreaks as has visited this country, for it costs these countries in unavoidable losses under their present methods more in one year in efforts to control the disease than it has cost us to eradicate all the foot and mouth disease together that has ever occurred in this country. But under present conditions, owing to the wide dissemination of the disease in European countries, it would be as impracticable for Germany or France or Russia to attempt to eradicate foot and mouth disease by slaughter, quarantine and disinfection as it would be for us now to attempt to eradicate hog cholera from this country by those radical measures without the aid of hog cholera preventive serum. If we had as much foot and mouth disease in this country as exists in Europe we would no doubt employ the same methods of control now in vogue in Germany and some other European countries.

It has cost us about \$600,000 to eradicate from this country the outbreaks of 1902 and 1908, and as a result of our promptness in attacking the disease and our efficiency in handling the situation our live stock industry has enjoyed 12 years of freedom from the disease at an expense of less than \$50,000 a year. What would our losses have amounted to during the last 12 years of uninterrupted prosperity if the disease had been allowed to take its course in 1902? You stockmen of Illinois can figure it for yourselves. The latest published statistics show that on January 1, 1914, there were on the farms in Illinois 1,216,000 cattle other than milch cows; 1,017,000 milch cows; 984,000 sheep, 4,358,000 swine. This live stock was estimated to be worth the enormous sum of one hundred seventy to one hundred seventy-five million dollars.

We have been told today that there is a depreciation in the value of animals that pass through the disease and recover. In Denmark this depreciation in value is estimated by Danish authorities to be \$8 per head; German authorities place the estimate for Germany at \$7 per head; and in Holland it is placed at \$10 per head. An English practitioner of wide experience states that it is none too high to place the loss on each animal that becomes affected and that ultimately recovers at \$20, when milch cows or feeding cattle that are nearly finished are under consideration. I give you some data, now figure for yourself what the live stock industry of Illinois is now facing, and what we have escaped during the last 12 years through the energetic measures that were employed by the State and Federal authorities in the eradication of the disease. Further I would mention in passing, that we might not be able to measure our losses in this country by the same measure that Europe employs in measuring her losses. Foot and mouth disease has been bred in the animals of Europe for 200 years, at least according to what Dr. Moore has just told us. Our animals of the bovine specie, bred in the southern part of the United States, where Texas fever infection exists continuously, inherit an immunity to Texas fever, and the disease does little damage to the offspring of cattle born and raised in the south. Some of you no doubt know from experience what loss results from death of animals if the infection of Texas fever is allowed to get into a herd of Illinois cattle. I do not know that any scientific investigation has been conducted along this line, but it is suggestive that the cattle of Europe are probably more resistant to foot and mouth disease than our cattle would be, and that our losses from a spread of foot and mouth disease would be greater than the losses from a spread of the disease in Europe.

The European estimates of depreciation in value of animals that have passed through the diseases are based upon the conditions that prevail in thickly populated Denmark, Holland and Germany, where the live stock is confined to buildings or limited enclosures, where they can be under observation, and where they can be treated and receive proper care. This condition is not comparable with what I saw in the state of Montana in the month of December, 1914.

The disease had made its appearance on the open range in that state, and the news of its appearance there was terrifying to all those in this country who engage in the live stock industry and allied enterprises. Fortunately, fortunately it seems we have been able to bury the diseased in Montana with the last infected herd that was slaughtered before I left the state on the 23d of December. This herd consisted of 154 animals of mixed sizes, grades and sex, rustling for a living on a range which skirted the banks of the Yellowstone River. The dry grass which constituted their only food, was covered by about 8 inches of snow; the thermometer oscillated between 12 above and 30 degrees below zero during the whole time this herd was under our observation. The animals had no shelter for themselves or their newly born offspring except the "draws" and "washouts" which nature provided along the river bank. Such protection seems inadequate to those of us who have been accustomed to seeing animals stabled and fed, and as I stated before, the only feed accessible to these animals was the frozen dry

grass they were obliged to nose from under the hard snow. While we were in the pasture looking for a suitable place to dig a trench to bury the herd, and while we were digging to ascertain to what depth the frost had penetrated the ground, the affected animals that could walk gathered in a semi-circle around us on the side of a knoll so that the claws were separated, thus exposing to view the foot lesions of the disease. I have never seen worse foot lesions on animals affected with this disease. Many of these animals had blisters and sores over the entire muzzle and the skin was hanging in shreds from their tongues. I saw enough to convince me that the disease would assume a much more severe form on the plains than we have yet seen in any of our farming communities, and the loss necessarily would be much greater. Besides it would probably be impossible for us to eradicate the disease if it once got a good start on the range.

Dr. Moore in his address read quotations from some of the most eminent authorities in Europe on animal diseases, men who were born, reared, and educated and have studied the disease for years in the countries of Europe, where it prevails in spite of the millions of dollars that have been spent in futile efforts to control it without resorting to the slaughter of the diseased and exposed animals. All of these authorities concur in opinion that the disease is very destructive; that at times it assumes a very malignant form and the losses are very heavy; that it is dreaded by farmers and stockmen of the British Isles more than all other epizootic diseases combined; that quarantine and disinfection alone have always failed to eradicate the disease and that it is their opinion that slaughter in connection with other measures that may be employed, is an indispensable feature in the eradication of the disease and no country has succeeded in eradicating it without slaughter.

We have frequently heard people say during this outbreak that they have been told by Germans, Hollanders, Danes, etc., who have come to this country, that foot and mouth disease is not regarded seriously in Europe; that all they do there is to inoculate all the susceptible animals so that it will pass through the herd quickly, and in a couple of weeks the animals are entirely well; and in as good condition as ever. I am glad that Dr. Moore and others have today refuted that statement, and quoted for us the opinions of such eminent and reliable European authorities. We, in this country, know very little of the disease. Our farmers know nothing from experience of the complications, secondary infections, and bad results that follow in its wake. We have been successful in eradicating the disease so promptly that our farmers have been spared the bitter experience and the price so often paid for lessons we learn from experience.

I perhaps cannot use the remainder of my time to better advantage than to relate a personal experience with a herd that had passed through the disease in Massachusetts in the outbreak of 1902 and was spared. The herd passed through the disease the latter part of October. I arrived at Boston, on December 9th, and my first assignment was to investigate the condition of a herd located near Sharon, Mass. This herd belonged to a prominent business man who resided in Boston. He called at the office some time before my arrival in Boston, and requested of Dr. Salmon, who was then chief of the Bureau of Animal Industry, that his herd be spared as it had passed through the disease several

weeks before, and was now in good condition. He stated that the lesions were all healed, that the animals were all eating, cows were all coming back to their milk. On examination of this herd, I found no lesions or conditions of consequence. I did find some old scars in the mouths of a few of the animals and a lump in the udder of one of the cows, which indicated the beginning of garget due to infection from the disease. I reported the conditions to Dr. Salmon and to Dr. Bennett, who had immediate charge of the eradication of this outbreak. No action was taken immediately. It was finally decided to clean and disinfect the premises, spray the animals with a disinfectant, apply a disinfectant to their feet and allow the herd to live. In about three weeks the owner again called at the office and stated that his herd was not doing as well as he expected; that some of the cows had garget, many of them had aborted; the calves had died; he had lost one of the cows; they were not giving more than one-half to two-thirds of the milk they gave before they had the disease and, in general, the results were proving very disappointing to him. He was advised that the fact that this herd was proving a financial disappointment was no good reason why the Federal Government and state of Massachusetts should now buy and slaughter the animals if there was no danger of their disseminating the infection of foot and mouth disease. The owner again returned in a couple of weeks and stated that if we did not slaughter some of the animals he would do so himself as their condition was such that he could not keep them on his place. I again visited the herd and found, as I recall it, 19 garget cows. Two of them in particular showed udders so distended and sore that they shifted their weight from one hind foot to the other so as to avoid pressure on the sore udders which were filled with pus. These animals were not eating and had become very thin—so thin they would not be recognized as the same animals I had seen at my first visit. Many of the animals were lame, and the soles of the feet loosened so that a knife blade could be passed between the sole and the foot from the heel to toe, and when they placed their weight on their feet, there was a sound similar to that of a man walking in boots containing water. After I made my second report to Dr. Salmon and Dr. Bennett, it was finally decided to slaughter the affected animals as there was danger of their being sold to some butcher and probably start infection in new places. I have personal knowledge of eight herds that were spared in this outbreak. The owners of six of them reported the unfavorable conditions and it was necessary to slaughter some of the animals in each of these herds in order to prevent the further spread of the disease. Later in the spring an owner of one herd that had been spared came to Boston and reported that he had been a "fool" in not reporting his herd and having them slaughtered, as it had been found necessary for him to sell seventy (70%) per cent of them to the butcher in the spring, as their usefulness for dairy purposes had been impaired by the disease so that they were no longer profitable.

All in all, it appears that our present methods of strict State and Federal quarantine, the slaughter of infected and exposed animals and the prompt and thorough cleaning and disinfection of infected premises is the most sane and economical method of handling the disease, if we seek to eradicate it.

QUESTIONS TO MR. HOUCK.

Q. Do you know where this disease originated?

A. It is supposed to have started in Michigan. The source of the disease is unknown today. There have been several clues, but we have been unable to trace it to any definite source.

Q. Do you know where the Illinois people got it?

A. We presume it came from the outbreak in Michigan or Indiana.

Q. What percentage of the dairy herds in Chicago had the disease?

A. I think practically 100 per cent.

Q. In the New England cases cited by you, were those conditions from the first attack, or from a recurrent attack?

A. Those conditions were from the original attack. They are conditions that follow the first attack. The period of immunity lasts as low as 12 days up to five or six years in some animals. That is one reason there are enough of those animals that are susceptible to in a short time keep the disease smouldering in a community, and others gradually become susceptible.

Q. The disease is recurrent in its nature?

A. Yes, the disease is recurrent in its nature.

Q. A herd may be attacked the second time?

A. We have two instances in Michigan where the disease appeared in the herd four weeks after the first attack.

Q. In all attacks in this country has slaughter been resorted to?

A. I was talking to Dr. Moore on that subject and he can perhaps give you better data on that than I.

DR. MOORE: In the first outbreak which occurred in 1870 slaughter was not resorted to, but we had a very different condition then from now. The herds were widely scattered. It occurred in the fall and there was a severe winter, according to Dr. Law's reports. The herds were far apart and there was little intercourse between them during this long winter. We had some five or six months of it and then the disease died out. In the second outbreak of 1880, between 1880 and '83, there were several places where animals were imported into this country and the herds into which they were introduced, largely in New York and New England, developed this disease. They were isolated and whatever animals died, died, and that was the end of it. The third outbreak occurred at Portland, Me., and that was due to the introduction of animals suffering from the foot and mouth disease on ship board. They were apparently well when they landed, and were driven to quarantine which had been established the year before, and cattle which were driven over those roads they went on, developed the disease. Those cattle were all slaughtered, and that was the end of that. The next outbreak is the one you have been told about—the one in Massachusetts.

Q. This last outbreak broke out in Niles, Mich.?

A. Yes.

Q. Was there any attempt made to get at the source of the trouble as to where it came from?

A. We have made some inquiries to date, but have been unable to find any clue that seems positive.

Q. I understand there is a tannery down there and that some of the hides were infected. Is this information correct?

A. That is one of the things that is drawn to our attention, but look at the great number of tanneries all over the country where they have been doing the same thing, bringing hides in from different parts of the world and we have not had an outbreak. Of course, there is a bare possibility, but nothing definite. It does not seem very probable.

Q. Are there being any cattle imported in this section?

A. No.

Q. Have you any suggestions for quarantine or suggestions regarding inspection after the disease is discovered?

A. The quarantine, of course, as Dr. Moore pointed out, is the first step in fighting the disease; then the slaughter, then disinfection. That is the policy that has been followed by all countries adopting the slaughter method.

Q. In this case at Niles, Mich., there was a newspaper report which went over the country to the effect that these hides that were imported came in bales, and that the bales were wrapped in straw and they laid around a couple of weeks before they were ready to put them into the vats, and they were then unbaled and the straw taken out and thrown over a wall. A couple of dairy farmers came in and bought the straw for bedding and took it away, and it was in those herds that the disease broke out?

A. I haven't heard that—the story has been twisted in various forms—but all we can say to date is that we do not know the source of this outbreak.

Q. What was the later history of the balance of the Martin herd which was not slaughtered—the one you spoke of near Boston?

A. I cannot tell you. I left there in April. I don't know if Mr. Bennett has any later information in regard to that herd or not.

MR. BENNETT: I went away soon after you did. We have no record.

Q. May I ask how many recurrent attacks an animal may have?

A. Well, I read in one veterinary work where the same cow went through the disease three times in one year, and by the time they get through it three times, there is not much left of them.

Q. May I ask Dr. Moore in regard to that? How many recurrent attacks may an animal have? Have you any statistics or data in relation to that?

A. I am sorry to say I have nothing except the statement that was made of a certain animal going through the disease three times in one year. In connection with the hides carrying the disease into this country, I would say that the hides are disinfected before they are brought into this country, and extra precautions are taken, because it is expected that the disease may have been imported through the hides, and precaution is taken in regard to their disinfection.

Q. What about the source of the trouble in Montana?

A. From the Chicago Yards.

Q. In what month?

A. October 26th.

Q. You were in charge of the work in Indiana and Michigan, I believe. I assume in Indiana, the same as in this State, there was some

territory known as "closed area" and others known as "quarantined area."

A. Yes, sir.

Q. The open or free area in Indiana—where there was no disease and no infection—was the shipment between uninfected and unquarantined points, the shipment of pure bred stock, stopped entirely?

A. It was.

Q. What is your notion, Doctor, in territory that is widely removed from any infected territory, for instance, regarding the movement of hogs for breeding purposes, between uninfected points? I am asking for my own information.

A. You say, what is the danger?

Q. Yes.

A. In the first place, there are very few states that would accept those shipments.

Q. I mean within the State.

A. Within the State? Simply the danger of carrying the infection from one point to another. After we have a quarantine established in a certain area and have time to get the disease curbed, I think the only way is to kill the diseased herd and get them under the ground and the place cleaned up and disinfected. Then we make a house to house inspection of all the animals around there within a radius of probably three to five miles; that is called the closed area. Now, then, from that section we are not supposed, under our regulations, to allow anything to be removed for the first 30 days. For 30 days after the inspection, nothing is allowed to go into or without this radius of from three to five miles without inspection and certification so that we have 60 days intervening between the time that the place is disinfected and the time that the territory is free.

Q. Doctor, take territory where there has not been any disease. For instance, Franklin County of this State. There has been no disease over in Jefferson County. Would there be any reasonable excuse for preventing the shipping of pure bred hogs from one of those counties to the other?

A. Franklin County has been entirely released from quarantine.

Q. I only used this simply for an illustration.

A. There is nothing to prevent it.

Q. The counties that are far removed from the infection, for instance several counties removed, there is no reason, Doctor, in your mind why those and adjoining counties that are also far removed should be prohibited from making shipments of live stock for breeding purposes, is there?

A. Dr. Bennett is familiar with this territory. The territory is released as soon as it is considered safe. Dr. Bennett knows of the specific instances in this territory.

Q. The reason I ask is, that express companies refuse to transport cattle or hogs for breeding purposes from uninfected points that are far removed from the quarantine area. I was trying to get at the reason why they would not.

A. I do not see any reason. I would like to say this: The mortality in a regular outbreak is not necessarily so very large. As I stated awhile ago, that was not the worst part of the disease; it is the secondary

conditions that follow. Further than that, if you allow the disease to exist you have that loss to go through every year. In the outbreak of 1902, it cost about \$300,000 to eradicate it, and in the outbreak of 1908 it cost about the same. Therefore, we have the same intervening period of six years between each outbreak, which amounts to about \$50,000 a year that it costs to keep free of the foot and mouth disease. What would it cost if the disease had been allowed to go on?

Q. How soon after the animal has had the disease and is pronounced cured is he liable to take the disease over again?

A. We have specific instances on record of twelve days, and I have seen them in four weeks. There is no cure. There is no medicinal treatment. The treatment is too expensive, and further than that it does not give immunity for a period of more than two months.

Q. Who looks after and sees that this quarantine is kept?

A. The State authorities establish a quarantine embracing a sufficient area. For instance, if you had a township that was infected, they would quarantine that township and the surroundings and hold them under State regulation. They would send out their constables into each township and patrol the township and explain to the people the requirements of quarantine.

Q. Who enforced it in Michigan?

A. The State authorities.

Q. Wasn't this done by your county sheriffs?

A. They acted under the instructions of the State authorities.

Q. Dr. Moore, are there any authorities who have a different theory than slaughtering? If so, who are they?

A. You mean for the eradication and control, for the handling of the disease? I suppose there might be those who feel that if you should quarantine sufficiently tight to hold the germ inside the territory until it died, that that would be a way of handling it. Most of the European people followed that method until they found it was not effective, as I tried to point out. They now recommend the more strenuous measure of slaughter.

Q. Are there any instances of any herds that you can point out that have been quarantined and been successfully treated and the disease conquered? The reason I ask that question is that within the last day or two the Chicago press has been printing articles to the effect that the farmers in certain parts of the State are objecting to the slaughter of cattle and claim it can be met and conquered in another way than by slaughtering. Is there anything in this position, or are they mistaken?

A. I do not think their position is well taken. Undoubtedly you could pick out here and there small herds, if they were quarantined, and not in severe form, where perchance the after effects would not develop. I do not doubt but that there are places where that would work, just as an outbreak of smallpox. Undoubtedly a great many individuals would recover after a sufficient length of time, but you don't know which individual is going to recover.

Q. Has the British Government changed its course?

A. In the last outbreaks the British Government has been slaughtering. I suppose there may be some who would say they could quarantine

and control this disease just as there are people who say it can be treated.

Q. I want to know whether or not there are any recognized scientists who take the other side of the argument and say slaughter is unnecessary?

A. I do not know any of that kind.

Q. Has the quarantine idea ever been successful where it has been tried?

A. No, sir; not that I know of.

Q. Now, if this is an assured fact from a veterinarian standpoint, as vaccination is for the prevention of smallpox, then that is the only thing to do, and if there is no other recognized branch of the school which has a better remedy to offer than this, then we can take this as a fair representation, and no man who does not hear this discussion before this body can later on say that only one branch of the school was heard before the Legislature?

A. I tried in my remarks to point out that this thing had come up in Europe—had gradually crowded in—and they tried to cure it by quarantine; and then in 1899 at the International Congress at Baden Baden, these men who had been making a study of the disease, men who had it at heart, were unanimous in the opinion that this method was not effective, as was shown by the enormous and heavy losses of 1891, where the Germans lost \$25,000,000, and, as Prof. Bang says, "In 1911 she is going to lose more." I do not think we can take this as a guidance to be followed, anyway. Every one, except the ignorant, who is acquainted with the handling and history of infectious diseases, knows that every outbreak is not as severe and serious as every other outbreak. They run in cycles, and the policy, as the doctor has pointed out, is that we do not want another epidemic of this disease. We don't want another disease that is going to cost millions and millions of loss every year. We want to get rid of it. It is the policy of the Government and of every state to get rid of it.

Q. Does Dr. James Law take a pronounced stand against slaughter and quarantine?

A. I think the doctor has got to the point where he looks back to his boyhood days, when everybody in his home town had the foot and mouth disease among their cattle sometime during the year, sometimes twice a year, and perhaps he feels—I cannot analyze his reasoning—that it might be better to take a loss of twenty-five, fifty or a hundred million dollars a year, as a consequence, than to sacrifice certain animals.

Q. The gentleman from Illinois stated that after the cattle were disinfected, within a day or two he considered the disinfected process perfected, and the danger of the disease removed. The gentleman from Michigan said the hides that were shipped in here had been disinfected, and consequently the danger of importing the disease had been removed. If those two conclusions are correct, is it not unnecessary to have the loss of the hides of the cattle which are being slaughtered? Could they not be disinfected and utilized and by so doing several thousand dollars be saved to the State of Illinois?

A. I think it is possible that that could be done, but the danger of spreading the virus, in the cleaning of these animals, and the expense of disinfecting them—I think Dr. Bennett could answer that better than

I. I have not had the experience in the slaughter work in the field to answer that, but I have raised that question with several of the government men and they have told me that the matter was carefully considered, but they felt the danger of getting it around, and getting the disease spread further, and the difficulty of disinfecting them, and the possibility of not disinfecting them properly, did not make it worth while to bother with it.

Q. There seems to be a prevailing impression among some of the German farmers in my part of the country, that in Germany they treat this disease and treat it successfully. I would like to know for my own information whether or not that is true.

A. Undoubtedly a good many people there try to treat it.

Q. Does the government take the measure our government does?

A. No, sir; as I have already stated, they have not done that, but they have stated specifically that the quarantine which they say is necessary they cannot carry out even in that government, and their losses, as given in their official records, are something enormous, amounting to way up in the millions. The great loss is in the young animals and a few adult animals that have died, and then these secondary conditions, the loss of flesh, milk, etc.

Q. Isn't it a fact that the German government, in experimenting with this foot and mouth disease, found it so difficult a process to handle that they established a quarantine station on an island in the North Sea and attempted to treat the animal so as to cure it. What were the results that were obtained from that?

A. So far as I know they have not been at all successful. The danger of working with the disease as I understand it—I am not positive of this, but have been told—that official investigations were stopped, and they secured this island and then went up there to work on it. So far as I know they have gotten nothing out of it except serum. I am advised they have been able to get a process that will immunize an animal for a month or two. That has been the extent of their success.

Q. It lasts about 60 days?

A. Yes, sir.

Gentlemen, I thank you.

MR. STEVENSON: Gentlemen, Mr. Gregory, of Chicago, Editor of the *Prairie Farmer*, one of the foremost farm journals of this State, will now address you.

G. A. GREGORY, Editor *Prairie Farmer*, Chicago.

GENTLEMEN OF THE ILLINOIS LEGISLATURE: The few words I shall have to say will not be those of an expert on foot and mouth disease, but will be said simply from the standpoint of a farmer and a farm paper editor.

I have studied the foot and mouth situation carefully, and in regard to the future policy to be pursued, it seems to me that only two courses are possible—to cease all attempts to control the disease, or to get rid of it as quickly as possible.

The impression had gained currency that this is not a dangerous disease, since the fatalities are not usually over 2 per cent. The total value of cattle, hogs and sheep in Illinois January 1, 1914, was \$154,000,000. A 2 per cent loss annually would be \$3,000,000, or practically twice the total cost of stamping out the outbreak completely by present methods. If left unchecked, a disease so virulent and easily spread as this would soon spread all over the State, and no herd would be safe. Neither would a herd be safe after it had once had the disease, since the immunity lasts only a short time.

The deaths from this disease are the smallest part of the loss. Additional losses from loss of flesh and milk, etc., would add to this total, until we should face the tremendous annual losses that Germany fears from this disease.

You will see that it is unthinkable that we should abandon the attempt to eradicate the disease. The question then remaining is, shall we continue with the methods now being followed, or shall we take the advice that certain farmers and others are offering, to combat the disease by quarantine?

No other country has ever succeeded in stamping out the disease by quarantine, even though some of them have tried it for over two hundred years. Therefore an attempt to stamp out the disease in this way here would be an experiment, with no assurance that it would end successfully.

If we try this method, it will mean that the present quarantines, perhaps doubled in severity, will be kept in force six months, a year, or perhaps longer. It will mean that all live stock growers in the State will be compelled to sell their stuff on demoralized markets for an indefinite time to come. It will mean that pure-bred men, many of whom have had their fall and winter business almost ruined, will face an indefinite continuation of the same conditions.

Since November 30th, when the Chicago Stock Yards were divided into two sections, \$13,000,000 worth of Illinois stock has been marketed in quarantine division. The discount in prices in that section has been 10, 15 or 25 cents a hundred—sometimes even more than that. The loss from this source alone has been probably more than half a million dollars. Every day that the quarantine remains in force adds to that loss.

Can we afford to submit to these inevitable losses—to market another year's live stock crop on a demoralized market—in order to try out a plan of handling the disease that has never been successful elsewhere?

There is another serious feature to be considered. The disease has been practically eradicated in other states. If we harbor the infection here, intercourse between Illinois and these other states, as far as live stock and live stock products goes, will be cut off. The action will be enforced by both the separate states and the Federal Government. Our live stock industry can hardly exist, much less prosper, with intercourse with other states cut off.

Now, what about the slaughter method? It seems very severe. It is a terrible thing to go onto a man's farm and destroy a herd that he has been years in building up. It is hard to explain to a man who has given the matter no thought the necessity for such action, especially in view of the fact that most of the animals would recover if left alone.

But I believe all persons who have seriously considered the matter are agreed that we must exterminate the disease, and that as quickly as possible. The slaughter method, severe as it is, is the only sure way of doing this. It is the only way that offers any promise of success. The expense is heavy, but it is the cheapest way out of a serious situation.

This method has eradicated the disease in previous outbreaks in the United States. It has succeeded in most of the 18 states that were infected in this outbreak. Success is in sight in Illinois. Out of the 53 counties originally infected, the disease remains in only 12, and in serious form in only three.

We have killed a million and a quarter dollars worth of stock in our attempt to conquer the disease by this method. We have been 90 per cent successful. It would be the height of folly now to reverse this policy. I am very sorry that the present controversy has arisen. I am sorry that injunction proceedings have been allowed to delay the work of stamping out the disease. Every day's delay adds greatly to the loss.

Undoubtedly many mistakes have been made by government and state officials. There has been delay in slaughtering, and longer delay in cleaning up premises after slaughter. Not all the inspectors sent out have had the necessary diplomacy to get on well with the farmers. Some of them have gone out like a bull into a china shop, and have aroused opposition wherever they went.

But this is no time to discuss mistakes, to air personal grievances, or to quarrel among ourselves.

There is only one thing to do, and that is to get together, continue with the slaughter policy, and get rid of the disease as quickly as possible. When that is done we can spend all the time necessary in fixing responsibility for mistakes. But let's get the disease eradicated first.

Perhaps the principal difficulty in getting many farmers to agree to have their animals slaughtered is the fact that no money is available for compensation. It is a hard thing to slaughter a farmer's stock and leave him nothing but an appraisal statement, which has no bankable value. I am sure that this fact is appreciated by Governor Dunne and by the members of the Illinois Legislature, and that a sufficient appropriation will be made at the earliest possible moment.

I hope that no effort will be spared to get rid of this serious epidemic as quickly as possible.

I wish to thank you for this opportunity of presenting this matter for your consideration.

QUESTION TO MR. GREGORY.

Q. Doctor, in this injunction suit in Kane County. Since that injunction was brought, it has been disseminated through the newspapers that an investigation has been made of the herd at Geneva, and it is found they did not have the foot and mouth disease. Do you know anything about whether that is true, or not?

A. It is true that the herd at the Girl's Home did not have the foot and mouth disease, and I am informed by the State and Federal authorities that that herd has never been reported as having the disease.

It was quarantined on suspicion only, to make sure, and when the second inspection was made it was found it did not have the disease.

Q. If that is true, then that injunction suit cannot be considered as opposition to the course adopted by the administration?

GOVERNOR DUNNE: The bill does not charge that there was any mistake in diagnosis. The bill does charge that this herd was infected with foot and mouth disease and ordered killed. As a matter of fact it was not ordered killed. The first diagnosis was that it was foot and mouth disease.

MR. GREGORY: The bill admits that.

GOVERNOR DUNNE: The bill alleges that we were killing animals affected with the foot and mouth disease.

MR. GREGORY: I understand that.

Q. Now Mr. Gregory, with reference to the quarantined section of the Stock Yards, why are quarantined sections maintained in the Stock Yards and also a free market?

A. Quite a large percentage of the stock that goes into Chicago is not slaughtered there, but is bought by Eastern shippers. The Stock Yards felt it was not safe to allow stock to come into the quarantined area and then go out again. It has been permitted to go into the quarantined section, but has to be killed within 36 hours. In the open section the shippers compete on the market, making the price higher.

Q. Do we understand that cattle are allowed to be shipped into Chicago and shipped out again?

A. From the free section they are allowed to be shipped out to Eastern slaughter houses, but not to farmers.

Q. There is danger of infection, isn't there?

A. It is felt that going into the Stock Yards under inspection from non-quarantined territory of the United States, and going out under inspection, that there is not much danger, and there have been no cases of the disease being spread, so far as known.

Q. Is it not practical then to permit these cattle to be shipped to different farms. They allow the disease to be spread by the germs in the course of shipment. The Illinois farmers have the impression that the Stock Yards Company and the packers, have a little bit to do with this quarantine section, in order to affect the price, so they may get cattle cheaper.

A. I could not say as to that. I haven't any information.

Q. That is the impression throughout the State among the farmers.

GOVERNOR DUNNE: Have you any evidence as to that?

A. No.

GOVERNOR DUNNE: Have you ever heard of it?

A. No, except that he states that is the opinion held by some people.

Q. Do you know of any foundation for that suspicion?

A. No foundation, except that the packers do benefit by it.

Q. Then the packers do keep the price down?

A. Naturally, if somebody had a cow to sell and you were the only buyer, you would pay what you wanted.

Q. The complaint has been made to me by numerous shippers that their stock has gone to the yards and into the quarantine section, and

in some cases sold for \$1 per hundred under the price of the non-quarantined section, and I have heard men say they have seen their stock sold and then seen them driven from the quarantine section over to the non-quarantined section and sold again. I have had a complaint of that kind from as many as half a dozen shippers. I want to know whether there is any truth in it or not, and there are men here who have had the same complaint made to them. In fact, it is in my section of the State a general complaint of the shippers, and they seem to believe and talk very freely that the quarantine is kept merely for the purpose of reducing the price of their stock that goes to the yards. That is not an occasional rumor, but I find since I came to Springfield, in conferring with other gentlemen here, a very wide-spread feeling of that kind.

MR. STEVENSON: The papers represented by Mr. Young and Mr. Brown are of rather a different nature. Mr. Brown, who will follow Mr. Young, is the Editor of the "Drover's Journal," which deals altogether in stock and is the daily stock market quotation for stockmen. I think he will be in position to answer your question.

MR. CHAIRMEN: Q. I desire in making that statement, to say that I know absolutely nothing about it; but that the same complaint has come to me from other members.

MR. GREGORY: If that situation exists it is a very serious one and can only exist through collusion between packers and shippers. I think if anything of that kind has been done it should be sifted to the bottom. As I said a few moments ago, those are some of the things to take up when we get the disease eradicated.

MR. STEVENSON: Mr. H. E. Young, of Chicago, Editor of the Farmers' Review, which makes a specialty of live stock matters, will address you.

H. E. YOUNG, Editor of the "Farmers' Review," Chicago.

Mr. Secretary, Members of the Illinois General Assembly:

My only excuse in appearing before you at this time is my interest in the protection and perpetuation of the live stock industry of Illinois—an industry which must be recognized as basic and fundamental in all agricultural prosperity. The live stock interests of Illinois are up against the biggest problem they have ever faced. Conditions were never as serious as now and never has there been greater need for sane, safe, sound, conservative deliberation on the part of this Legislative Assembly. The primary question is whether or not the State of Illinois is going to uphold the work of the State and Federal authorities and cooperate with them in providing for this State a clean bill of health for its live stock. The question is on the justification of the work of the State and Federal officials in completely eradicating foot and mouth disease in this State. These officials are men who ought to know what is best in this case. I believe they do know. I believe that you believe they know. They are convinced that the only way to meet the situation is by immediate slaughter of all infected animals, rigid quarantine, and

thorough disinfecting of all premises. Until it has been demonstrated that there is a better way, it is the part of wisdom to give them every support in their work. Unless this is done, it means the existence of a permanent menace to the live stock business, which would necessarily result in perpetual paralysis of practically our whole live stock industry so far as profitable business is concerned.

Others who have preceded me have dealt with various phases of this problem, especially the scientific side. I submit that it has been conclusively shown by the eminent authorities whom you have already heard that the only way to successfully meet present conditions is by the slaughter method, and that the quarantine method, which has been suggested by those opposed to the work of the government authorities, is absolutely inadequate and ill-advised in this State and country at this time.

I want to particularly call your attention to and emphasize the fact that practically all of the other states in which the disease has occurred have gone ahead and cleaned up. The trouble is practically under control and to all practical purposes eliminated in all of the states where disease outbreaks have occurred, with the exception of Illinois. Naturally these other states are looking to Illinois to do likewise. They expect it, and I may say are amply justified in this position. It must be expected that they will demand that Illinois go ahead and successfully eradicate all foot and mouth disease. It is the logical and reasonable position for them to take in behalf of the live stock interests in their respective states. To better illustrate this attitude, which other states are bound to take, and to emphasize the point I wish to make, I want to mention a letter which I have recently received from the president of the Live Stock Breeders' Association of Pennsylvania. He says:

"Down this way we are getting scared at your State's failure to handle foot and mouth disease effectively. I note the protests from banks, congressmen, and farmers against wiping it out, demanding that cattle be kept. If that is done, our State, which now has control of the disease, after killing about 16,000 animals, will quarantine against anything from Illinois. So will other states which have had the nerve to go ahead and clean up. There is no doubt about such action in case Illinois does not wipe it out. We are not going to spend a million dollars to get a clean bill of health for our live stock and have it all spoiled by the monkey business of your State officials and others out there."

This letter simply shows the attitude which is going to be taken by other states in reference to the situation in Illinois. It is a fair statement of how live stock men and live stock interests of other states view the present serious condition existing in Illinois. It shows not only the dire necessity of an immediate and thorough eradication of the disease in this State, but also the magnitude of our responsibility in properly and effectively meeting these conditions. The procedure in Illinois is not alone going to affect the live stock industry of this State, but the live stock business of the entire country. Unless the disease is immediately stamped out, Illinois will very soon be isolated by quarantine. I do not have to suggest what such a disastrous situation would mean to the live stock industry of this State and the entire country.

In conclusion I want to say that thinking farmers of this State are in favor of supporting the heroic measures adopted by the State and Federal authorities in their effort to eradicate foot and mouth disease. The great mass of thinking farmers of Illinois is ready to stand behind these officials in providing a clean bill of health for Illinois live stock. They realize and appreciate the importance of an immediate and thorough clean-up of the disease and what it means to them and the great industry which they represent. I speak advisedly on this point, because of the fact that I am in particularly close touch with the live stock and agricultural interests of Illinois. The Farmers' Review has vigorously and persistently supported the State and Federal officials in their efforts to effectively stamp out this disease. This stand has been taken because we are convinced that it is the only right stand to take and I can assure you of our continuance in this stand.

In behalf of the farmers and live stock men of Illinois, whom I have the honor to represent, I would respectfully urge your serious attention and consideration of this great problem, looking toward the State's cooperation with government officials in the work which is being done. Particularly would I urge your most serious and favorable consideration of immediately and adequately meeting the necessary appropriation which must be made by the General Assembly to take care of the State's share in the settlement of all just claims for the slaughter of animals in completely eradicating this disease in Illinois.

I thank you.

MR. STEVENSON: Gentlemen, I would like to call your attention to the fact that after the next speaker addresses you, including a telegram read by the Governor, from Mr. Goodwin, that you will then have heard from the editors of four of the principal farm journals of the State of Illinois, all of them unqualifiedly upholding the attitude of the Federal and State government. We now have Mr. J. R. Brown, editor of the Farmers and Drovers Journal, the largest daily live stock journal in the world, making a specialty of live stock quotations, etc.

J. R. BROWN, Editor "Farmers' and Drovers' Journal," Chicago.

MR. BROWN: My views on the foot and mouth disease and the necessity of eradication, rather than temporizing with it, were expressed clearly and concisely in the paper which I represent, the Farmers and Drovers Journal of Chicago, last Friday, a marked copy of which we sent to each member of the House and Senate, and which I sincerely hope that you read, since this is a situation more serious than has confronted almost any industry in the history of this State.

The gentlemen who have preceded me pointed out to you their views, formed as professional men, upon the proper means of handling this situation. It would be presumptuous on my part to attempt to elaborate upon any of the points they brought out.

I merely wish to say that I have been "on the firing line" since the start of this battle; I have been at the field headquarters of both the State and Federal bureaus which have been directing the eradication

campaign and have had opportunity to watch the work of these bodies and, as well, have had my finger on the pulse of public opinion, or at least that portion of the public most vitally interested, the live stock grower.

I have had dozens of letters from producers, some complaining strongly that the eradication process was too severe. "Temporize with this disease," they urged. "Let us demonstrate that we can save our cattle." Gentlemen, such arguments come alone from the laity, and in clinic the layman is usually supposed to be the subject for operation. He places his confidence in the ability of men who have spent a lifetime studying ailments such as afflicts him. Now, let the farmers of Illinois impose like confidence in the men who are conducting this campaign of disease eradication. There isn't one of them who would destroy a steer if he conscientiously believed it could be allowed to live and not become a menace to the health of other animals in nearby territory.

Veterinary science has fought foot and mouth disease for generations in Europe and has as yet found no effective means of stamping it out other than the slaughter and burial of the carcasses. We hire a physician to treat us when we are ill because we believe he knows more of the nature of our ailment and the curative measures necessary than we do.

I believe the veterinary scientists are on the right track. They have demonstrated it thus far in the campaign, since they have cleaned up nearly all other states affected, and Illinois, which had 46 per cent of the total number of outbreaks in this country, now has above ground only 8 per cent of its cases.

Viewed purely from an economic standpoint, the slaughter of infected and exposed herds must go on, and from the same economic standpoint, as affects agriculture in Illinois, this body must speedily make appropriation of an adequate amount of money to fully reimburse the farmer for one-half of his loss, the balance to be paid by the Federal Government, in accordance with its established custom.

In the Chicago Farmers and Breeders Journal of yesterday there was a statement giving the views of the Chicago Live Stock Exchange, which clears for the farmers of Illinois and surrounding territory more live stock than any other journal in the world. They sold last year \$375,000,000 worth of live stock on the Chicago market. I will read it:

"The Chicago Live Stock Exchange, through its committee handling the foot and mouth disease quarantine matters, today make clear its position relative to the quarantine in Illinois, and the necessity of prompt legislative action for the reimbursement of owners of live stock which has been slaughtered thus far in the State and Federal campaign of disease eradication.

"Here are the cardinal points in the disease eradication campaign to which the Chicago Live Stock Exchange gives its strong endorsement:

"The action of the Federal inspectors in their work in Illinois and other states is heartily endorsed. The Exchange believes that speedy destruction of infected and exposed herds is absolutely necessary if the live stock industry of this country is to avoid fighting the foot and mouth disease—the scourge of Europe—indefinitely, and to conserve the value of investments in live stock.

"It maintains that the State of Illinois and the Federal Government must pay every man who owns an animal that has been slaughtered the appraised value of his animal; the State and Federal Government to share alike in this expense, and other states to share with the Government the losses in their respective states.

"These payments must be made as soon as possible, and the Live Stock Exchange urges prompt action by Congress in making provision for the Bureau of Animal Industry funds for this purpose, and as well the State of Illinois and all other states whose farmers have suffered losses.

"The foot and mouth scourge is one which affects indirectly all the people. Its continuance, through temporizing with it, would lead to a much more severe shortage of live stock in this country.

"The Live Stock Exchange urgently requests the state legislatures to make these appropriations as speedily as possible and feels that there can be no reasonable opposition to such appropriations on the part of the public and tax payers generally.

"In handling the foot and mouth disease among live stock it is a more humane, as well as economical, process, to slaughter every animal infected or exposed—clean up once for all and let the Federal and State Governments come forward and stand the expense as they have done previously, rather than to adopt lax methods in handling the situation and be forced to fight the disease indefinitely. The cost to the public at large will be much less, from an economical standpoint, if prompt destruction of the animals is continued until all infected or exposed herds are under ground.

"There have been slaughtered in Illinois up to date 527 herds of live stock, comprising 18,000 cattle, 23,000 hogs, and 500 sheep, the total appraised value of which is \$1,230,000.

"Illinois has had 46 per cent of the cases in this epidemic that a few weeks ago affected 16 states, and all but 8 per cent of the Illinois herds infected or exposed have been slaughtered.

"It is the contention of the Chicago Live Stock Exchange that to temporize with this 8 per cent of cases would mean quick spreading of this disease over this State and possible re-infection in other states.

"Illinois cannot afford a Federal quarantine. It would mean practical isolation of the live stock industry in this State and terrific losses to stockmen. The alternative is speedy eradication of the remaining cases of infection and a display on part of Illinois inspectors and the live stock owners in this State of hearty cooperation in establishing and maintaining county quarantine lines, and observance down to the minutest detail, of the quarantine regulations which must necessarily be imposed.

"This action would mean a dwindling of supplies in the 'quarantine area' of the Chicago Stock Yards, since live stock from 55 counties which have been infected or exposed would shortly be released by Federal action for marketing in the free section of the yards.

"The Chicago Live Stock Exchange declares that the establishment of the quarantine yards, November 30th last, and the continu-

ance of the dual market system here since that time was an absolute necessity."

It afforded an outlet for approximately 12,189 car loads of live stock from November 30th until January 15th, inclusive, and the value of that live stock sold was approximately \$20,600,000. In the quarantine division, out of a total of 1,054,000 head of live stock, 615,600 came from Illinois. There were 71,789 head of cattle, average weight 1,026 pounds; average price 8 cents; the per head value was \$81.81, and the aggregate value was \$5,878,083. There were 3,627 calves, average weight 154 pounds; average price per pound 9 cents; per head value \$13.86; total \$50,893. There were 443,676 hogs, average weight 224 pounds; average price 7 cents; per head value \$15.68; total value \$6,956,839. There were 96,526 sheep with a gross value of \$554,059.

The average prices of the stock were computed by experts at Chicago and these, with a total weight of the stock passing over the scales, enabled the statisticians to determine the approximate value of the stock sold in the quarantined division.

"The Federal regulations provided that stock from infected areas could not be shipped interstate, but the Illinois Board of Live Stock Commissioners permitted it to be moved in this State for immediate slaughter.

"Thus the live stock owner had the option of retaining his stock at home and taking chances of it becoming infected or selling for local and immediate slaughter.

"That the quarantine price discounts on a portion of the stock have at times been severe is not disputed, but this was a situation not of the sellers' creation. It was the condition they had to face because of the elimination of the shipping competition and by reason of the big supplies which came into the quarantined division.

"Had there been no quarantine and free area divisions there would, of necessity, owing to the Federal quarantine regulation, have been but one area and that a quarantine area, because of the refusal of the Federal Government to permit stock from infected areas to go into interstate traffic, and thus, with the shipping outlet closed to all live stock in the Chicago market, the prices would necessarily have been much lower than has been the case either in the free area or the quarantined division under the dual market system.

"These points should be carefully weighed in the minds of the live stock grower and shipper. A crisis arose at market as it did in the productive territory, one that required the best efforts of all interests to be put forth in handling the situation in a time of stress that, fortunately, now gives promise of soon being remedied, provided there is shown by all live stock interests that spirit of hearty cooperation to 'clean up,' which good business sense demands must be put forth."

Gentlemen, I thank you.

QUESTIONS ASKED OF AND ANSWERS BY MR. BROWN.

Q. It has been rumored around that there have been cases where the farmers have taken their cattle and they have been put in the quaran-

tined section of the yards and sold, in some cases as low as a dollar under the regular price paid for them in the non-quarantined section of the yards, and that from there they have seen their stock driven to the non-quarantine section of the yard and sold again.

A. That would be practically impossible unless the United States Government is becoming lax in its methods and must have a man who falls asleep at the gates.

When the proposition was put up to them they decided to put up a fence 14 feet high from the easterly to the westerly side of the yards in the section known as "Main Alley." They have a gate there, and also put up a temporary office and fumigating plant, and in that office and at that gate, day and night there is stationed a representative of the United States Bureau of Animal Industry with police power, and a policeman from the stock yards with police power, and no animal can get in or out of one of these sections while these men are at the gate, and I haven't seen any of those animals that are able to jump a 14-foot fence from one yard to the other. I believe that whoever made that assertion was not at all familiar with the conditions in the stock yards or else he made it for the purpose of creating political capital.

Q. I would like to ask, I have heard the testimony of the various experts here and it has been said that this disease can jump a number of miles. There is nothing to prevent birds from flying from one part of those yards to the other, is there?

A. No, sir.

Q. The disease can be spread from the affected cattle then to those that are not affected?

A. Dr. Bennett has declared to me that not one single case has been found in the free section of the yards.

Q. These cattle could be shipped out from the free markets to foreign countries. They may become infected and carry the disease to a foreign country if the statement made by these experts is true.

A. To the best knowledge of the Federal inspectors there has not been one single case of the disease transported from the free area of the yards.

Q. Now, these cattle arriving in the morning or during the night; when are they unloaded in the quarantine section?

A. In bright daylight; they are not permitted to be taken out of the cars at night.

Q. When are they slaughtered?

A. They are slaughtered in the daytime.

Q. It has been claimed that sometimes they are not unloaded until night in the quarantine section.

A. No, the cattle are unloaded in the daytime.

Q. Are they all killed within 30 hours?

A. No, sir; they have not been all killed within 30 hours; that regulation has not been strictly complied with.

Q. I want to get some idea relative to the difference in price in the quarantined and free areas. You are the editor and manager of the Breeders' Journal and your paper publishes each day the market quota-

tions of the sales of live stock in the Union Stock Yards. How do you secure those quotations?

A. Through personal investigation and acquaintance with probably 90 per cent of the buyers and sellers on the market and through a limited knowledge of live stock values and qualities that I myself possess.

Q. Your chief source of information is from the commission men and buyers?

A. Yes, sir.

Q. Is it true that the quotations in your publication show a less market value for the great majority of the stock received in the yards in the quarantined area, as compared with the free area?

A. Yes, sir. It is.

Q. About what per cent on the cattle and hogs?

A. We don't figure per cent in values in Chicago. We figure a certain price—10 or 15 cents, for instance, per pound. In the general run of selling in the quarantined division of the yards your cattle values vary anywhere from 10 to at times as much as 50 cents on the hundred.

Q. In the two areas?

A. It depends on qualities and weights and the prime heavy cattle suffer the most. The reason of that is this: The greater demand for the prime heavy cattle from Chicago comes from New York and also some "kosher" trade of a local character. When they are in the quarantined section they have to be slaughtered before they are shipped out of Chicago, which makes them unfit for this "kosher" trade. It must be slaughtered in New York, the slaughtering to be done by a rabbi.

Q. Would you care to express your judgment before this body as to the cause of or the reason for the less value of live stock in the quarantined area as compared with the free area?

A. My personal opinion as to the reason of it is this: In the quarantined area the demand is limited to the Chicago packers—I mean the four large packers in the yards—and a limited number of the smaller packers whose houses are on the outlying districts of the yards. The four large packers have the only facilities for driving direct over the chutes from the quarantined area into their packing houses, while the outlying houses are compelled to take the free stock from the storage yards to their slaughter houses under various conditions. To a great extent the demand in the quarantined section was by a limited number of buyers and, as a rule, they had a big supply. The law of supply and demand governs here the same as it always does when there is greater competition and a lesser supply.

Q. You are in touch with the live stock interests throughout the State, both from your correspondence and from your own personal observation, and I would like to know what would be your conclusions as to the lifting of the quarantine in the counties that are now free of the disease?

A. There have been 63 counties in Illinois under quarantine at one time. Dr. Bennett informs me that there are 51 of those counties now absolutely free from the disease as far as is known, and they have been cleaned and disinfected for periods ranging from two to four weeks. It is the belief of a great number of people in the stock yards in Chicago

that if the State Board of Live Stock Commissioners should place absolute quarantine on the places where the disease is now known to exist that the government would very readily release for interstate shipment that portion of the State now free as soon as they could make a house to house inspection. Dr. Bennet said this noon that if the quarantine were placed on twelve counties absolutely, that within two weeks he would be able to recommend to Washington that the greater number of the entire number of these counties now free of the disease could be released for interstate shipments.

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS ON ACCOUNT OF FOOT AND MOUTH DISEASE AND APPRAISED VALUE.

JANUARY 22, 1915.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
Adams County—					
W. H. Oiler.....	Mendon.....	5	1	5	\$197 75
C. W. Wright.....	do.....	10	19		740 00
Total.....		15	20	5	\$ 937 75
Boone County—					
Thos. Hanson.....	Belvidere.....	38	81		3,108 54
Clarence Johnson.....	do.....	55	85	5	5,409 44
Total.....		93	156	5	\$8,517 98
Bureau County—					
J. W. Andris.....	Princeton.....	10	30		965 20
F. E. Beatty.....	LaMoille.....	25	37		2,776 62
George Billhorn.....	Clairon.....	20	21	6	1,523 35
W. E. Burns.....	Arlington.....	17	61		1,347 40
W. O'Brien.....	do.....	14	29		947 30
Joe Fahlberg.....	do.....	1	4		121 48
A. Field.....	LaMoille.....	17	78		2,200 60
Clifford Hopps.....	do.....	14	70		1,832 80
Alfred Johnson.....	Wyanaet.....	28	20		1,960 00
W. H. Neill.....	Arlington.....	23	80	4	2,038 71
Horace Prior.....	Wyanaet.....	16	85		1,607 25
Henry Showalter.....	LaMoille.....	2			160 00
Wm. A. Stahlen.....	Neponset.....	13			752 50
W. S. Stratton.....	Princeton.....	2			185 00
Chas. Williams.....	do.....	134	110		8,961 35
Total.....		336	625	10	\$27,429 56
Carroll County—					
Fred Allanson.....	Mt. Carroll.....	22	58		2,108 00
Allanson & Elliott.....	do.....	21			1,312 50
H. Bolinger.....	Lanark.....	25			1,250 00
Edward Carbaugh.....	Shannon.....	10	72	15	1,371 72
Chisholm & Rahn.....	Chadwick.....	260	311		22,212 20
Walter Collins.....	Lanark.....	15	41		1,135 00
Simon Fisher.....	Shannon.....	43	37	2	2,981 00
Andrew Frey.....	Lanark.....	23	29		1,298 50
Frey & Bolinger.....	Shannon.....	33	20		3,304 00
George G. Geary.....	Milledgeville.....	1	3		
Joseph Grlm.....	do.....	15	5		628 93
Poerter Heth.....	do.....	29			1,430 00
E. Kloepping.....	Lanark.....	35	82		2,834 00
James C. Lenhart.....	Milledgeville.....	53	44		3,113 63
Harry Martin.....	Lanark.....	10			720 00
D. S. Moll.....	Shannon.....	127	140		6,597 00
Moll & Nichol.....	do.....	29	65		1,781 00
John & G. R. Morris.....	Lanark.....	98	120		5,311 00
Casper Orth.....	do.....	74	56		4,548 50
John & Albert Peters.....	do.....	637	89		4,451 00
Railing & Fletcher.....	Milledgeville.....	23	38		1,569 40
Albert Schrimmer.....	Lanark.....	261			1,300 09
Charles F. Schrimmer.....	Chadwick.....	301	14	8	1,209 00
Harve J. Schrimmer.....	Chadwick.....	10	45		897 50
Leslie Stover.....	Milledgeville.....	9			318 00
Henry Switzer.....	Lanark.....	25	16		1,532 50
Stephen F. VanBroeklin.....	Shannon.....	19	10		947 00
Truckmiller & Warner.....	Shannon.....	11			480 00
Wm. Warner.....	Lanark.....	13			570 00
John L. Weltzel & Sisters.....	Mt. Carroll.....	17	37		1,449 00
Miss Nancy Willong.....	Milledgeville.....	5	14		336 00
G. W. Wolfenberger.....	Lanark.....	14			760 00
Geo. H. Zler.....	do.....	26	8		1,689 00

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
<i>Carroll County—Concluded.</i>					
J. G. Zier.....	Shannon.....	42	67	.....	\$2,579 00
Charles Zuck.....	Lanark.....	29	14	7	1,811 00
Total.....		1,285	1,435	32	\$85,385 38
<i>Cass County—</i>					
Devlin Bros.....	Ashland.....	48	96	.....	4,555 57
Fred D. Savage & Co.....	do.....	51	362	.....	6,615 00
L. E. Stribling.....	do.....	19	67	.....	1,800 00
James E. Thornley.....	do.....	30	316	.....	3,900 60
R. Viands.....	do.....	4	3	.....	285 00
Total.....		152	844	.....	\$17,156 17
<i>Champaign County—</i>					
Wm. Good.....	Urbana.....	41	13	.....	1,899 80
Fred Menenga.....	Dillsburg.....	70	70	.....	4,318 89
Wm. Ruckman.....	Philo.....	52	.....	.....	2,053 82
Total.....		163	83	.....	\$8,272 51
<i>Coles County—</i>					
C. W. Abell.....	Mattoon.....	18	.....	.....	1,160 89
C. W. Stephenson.....	do.....	35	58	.....	2,975 00
John Tracy & Son.....	do.....	7	8	.....	558 00
Total.....		60	66	.....	\$ 4,693 89
<i>Cook County—</i>					
Darlington & Co.....	Chicago.....	616	.....	.....	35,282 22
E. C. Separator Co.....	do.....	6	.....	.....	450 00
Great Western Serum Co.....	Chicago.....	.....	516	.....	8,009 10
Chas. Hanning.....	Palatine.....	19	8	.....	1,390 00
F. W. Porep.....	do.....	22	7	.....	1,639 00
August Reuter.....	do.....	22	.....	.....	1,290 00
Aug. Reuter.....	Barrington.....	21	13	.....	1,740 00
Louie Roper.....	Palatine.....	23	19	.....	1,470 00
Wm. Roper.....	do.....	29	20	.....	1,851 00
Wheeler & Son.....	Chicago.....	224	.....	.....	8,612 50
Total.....		982	583	.....	\$61,733 82
<i>DeKalb County—</i>					
A. Anderson.....	Kingston.....	19	98	.....	1,912 00
Peter Bastian.....	Hinckley.....	24	.....	.....	1,408 97
A. B. Byers.....	Kirkland.....	49	27	1	3,092 63
H. Delano.....	Hinckley.....	13	56	.....	2,040 00
Frank Gronberg.....	Kingston.....	31	96	.....	2,973 76
Abe Henneway.....	Hinckley.....	17	.....	.....	1,175 00
Hughes & Potter.....	do.....	25	53	.....	2,360 75
Lawrence Marcot.....	Somonauk.....	10	7	.....	672 50
Medine & Drake.....	Sycamore.....	31	76	.....	2,415 00
L. M. Olmsted & Son.....	Shabbona Grove.....	53	.....	.....	5,228 23
John F. Reding.....	Somonauk.....	22	19	21	1,028 12
C. J. Reid.....	DeKalb.....	8	34	.....	465 00
Thos. Rich & John Faissler.....	Kirkland.....	6	32	63	1,630 38
D. E. Streever.....	Hinckley.....	17	91	2	2,175 00
Wm. H. VanArsdale.....	Malta.....	.....	53	.....	367 50
Mrs. Wilson & Sons.....	Sycamore.....	54	109	.....	6,436 00
Total.....		379	751	87	\$36,280 84
<i>DeWitt County—</i>					
C. L. Birttin.....	Waynesville.....	73	35	.....	4,433 00
Henry Harpster.....	Midland City.....	2	4	.....	194 02
Otto C. Marvel.....	Waynesville.....	6	48	.....	632 25
Ira Pollock.....	Clinton.....	8	9	.....	843 25
Archie Swan.....	do.....	4	204	.....	2,293 75
P. K. Wilson.....	do.....	34	.....	.....	1,477 11
Total.....		127	300	.....	\$ 9,873 38
<i>Douglas County—</i>					
A. W. Bragg.....	Tuscola.....	181	168	.....	13,298 75
J. G. Bragg.....	Camargo.....	94	214	.....	9,815 23
Samuel Fetheroff.....	Camargo.....	.....	1	.....	15 00
P. J. Gates.....	Tuscola.....	32	.....	.....	1,448 10
Total.....		307	383	.....	\$24,577 08

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
DuPage County—					
Barion Herd.....	Hinsdale.....	211	.....	.....	\$48,450 00
Nathan Bomberger.....	Naperville.....	9	13	.....	805 30
M. Brackenber.....	do.....	22	15	.....	1,808 00
C. R. Burgess.....	do.....	19	25	8	1,387 57
C. E. Perry.....	do.....	16	.....	.....	1,123 00
M. F. Fey.....	do.....	15	48	.....	1,515 92
A. Fibiger.....	do.....	48	12	.....	2,944 45
John Foos.....	do.....	33	37	.....	3,129 20
Otto Frahm.....	Bensenville.....	56	80	.....	4,626 25
H. E. Fraley.....	Naperville.....	25	29	.....	2,008 72
John Garling.....	do.....	20	48	.....	2,144 33
W. B. Kinsella.....	do.....	4	48	.....	744 60
F. E. Krage.....	Elmhurst.....	36	8	.....	2,313 25
Robert Liebrandt.....	Naperville.....	31	8	.....	2,012 17
Louis Buehke.....	do.....	25	26	.....	1,723 75
C. O. McChesney.....	West Chicago.....	72	77	.....	5,650 75
Fred McCoy.....	Naperville.....	21	50	.....	2,036 64
Peter Modaff.....	do.....	22	25	.....	2,029 75
Hans Moeller.....	do.....	22	55	.....	1,814 86
F. Mueller.....	do.....	22	50	.....	1,639 76
M. A. Myers.....	Hinsdale.....	2	.....	.....	165 00
Ernest Overcash.....	Naperville.....	27	57	1	2,786 40
R. S. Pahlman.....	do.....	24	7	.....	1,586 40
W. H. Porter.....	Wheaton.....	10	25	13	794 94
W. B. Rubright.....	Naperville.....	6	12	.....	675 55
Albert Strubler.....	do.....	18	8	.....	1,491 40
W. B. Swiney.....	Elmhurst.....	11	42	.....	1,162 37
Edward Wolsfeld.....	Naperville.....	35	80	.....	3,803 75
Total.....		864	880	22	\$102,874 08
Edgar County—					
Dan Arthur.....	Paris.....	1	.....	.....	80 00
Caleb Stanfield.....	do.....	.....	33	.....	750 00
Foster Stanfield.....	do.....	31	.....	.....	1,269 75
Total.....		32	33		\$2,099 75
Ford County—					
Wm. Kneale.....	Kempton.....	71	37	4	4,288 23
Fulton County—					
Fred Barnfield.....	Avon.....	2	107	.....	1,269 00
Kenneth Bobbett.....	Avon.....	11	42	.....	912 00
Mrs. Fannie Butler.....	do.....	1	.....	.....	65 00
W. H. Chenoweth.....	Table Grove.....	61	7	.....	2,548 00
A. Dikeman.....	Farmington.....	3	216	.....	2,151 25
N. Foster.....	Yates City.....	34	82	.....	2,328 00
August Johnson.....	Table Grove.....	9	30	.....	647 00
Ida & Frank Johnson.....	Avon.....	25	295	3	5,391 00
Chas. Mings.....	do.....	43	139	.....	6,224 90
J. C. Pierce.....	do.....	10	54	.....	703 00
Total.....		199	972		\$22,239 15
Greene County—					
J. G. Barnett.....	White Hall.....	58	35	.....	2,555 00
Grundy County—					
Coveny Bros.....	Kinsman.....	57	49	.....	2,503 33
Roy Enger.....	Morris.....	5	.....	.....	375 00
Isham Bros.....	Maxon.....	99	101	.....	16,350 70
Gustave E. Johnson.....	Morris.....	11	4	.....	767 60
Ole Johnson.....	Morris.....	5	2	.....	263 40
A. D. Landphere.....	Mazon.....	59	48	.....	4,694 91
A. D. Landphere.....	do.....	18	.....	.....	870 00
P. G. Larson.....	Morris.....	6	.....	.....	322 50
L. Lauritsen.....	do.....	7	.....	.....	430 00
Martin Bros.....	Mazon.....	5	18	.....	593 50
Harry Peacock.....	Morris.....	18	.....	.....	855 00
John Rosendahl.....	do.....	14	16	.....	871 66
C. W. Wildey.....	do.....	10	3	.....	606 20
M. H. Wilcox.....	do.....	182	.....	.....	16,330 14
Total.....		496	241		\$45,833 94
Hancock County—					
F. W. Barnhart.....	Carthage.....	7	1	.....	345 75
John Gable.....	Ferris.....	1	.....	.....	45 00

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
Hancock County—Concluded.					
E. C. Hancock	Ferris	1			\$ 51 00
P. W. Ingstrom	LaHarpe	37	164		3,974 90
Rosetta Jacks	Ferris	1	2		104 00
Rosetta Jacks	do	1			54 00
D. F. McCollom	do	1			45 00
Harvard Pettit	Carthage	1			30 00
John W. Schenck	Ferris	5	2		302 05
Amos Seaver	McCall	1			25 00
Sarah E. Stidum	Carthage	2			75 00
J. F. Stidum	Pilot Grove	6	25		345 00
J. D. Stidum	do	19			1,282 00
W. S. Stidum	Burnside	11			460 00
Mrs. W. S. Stidum	do	1			45 00
Fred Whetrick	Ferris	9			414 87
John D. Whitcomb	do	7	10	2	457 00
G. F. Wilson	do	3	98		966 00
A. W. Youngmeyer	do	19	71		1,604 30
Edward Youngmeyer	do	7			445 00
Total		140	373	2	\$11,070 87
Henderson County—					
H. N. Vaughn	Stronghurst	61	75		7,984 00
Henry County—					
Jesse Anderson	Osco	10	84		1,310 50
Hugh Armstrong	Atkinson	4	66		1,053 37
John Bode	Geneseo	21	22		1,704 25
S. Brownlee	Woodhull	44	86	1	2,963 75
Harry Erdman	Geneseo	9	8		583 00
John C. Glowe	do	9	13		588 75
James Goodrich	do	1			40 00
Carl Gustafson	Cambridge		1		20 00
Henry Lewis	Geneseo	10	57		832 50
Park McHenry	do	4	5	31	494 75
Ray Mandel	do	2	24		320 50
A. E. Miller	do	43	33		3,550 50
A. J. Nelson	Cambridge	4	29		568 75
C. W. Nelson	do	4	20		415 00
J. E. Ogden	Geneseo	2	1		165 00
C. A. Olson	do	9	12		826 25
Grant Olson	do	21	60		1,943 00
W. L. Painter	do	36	23		2,002 75
S. S. Rapp	do	1	7		178 75
Robertson Bros.	Cambridge	14	46		1,110 75
Louis Schmoll	do		11		74 00
Mar. Sedgely	Geneseo	5	15		545 00
Thomas Torrence	do	5	73	25	1,042 62
Melvin Van Hylte	Annawan	28	33		1,384 50
Gust Van Vooren	Atkinson	13	74		1,222 50
W. H. Wilson	Geneseo	22	94	41	2,063 75
G. W. Wolf	do	9	34		874 00
Total		330	931	98	\$27,878 49
Iroquois County—					
Frank Frame	Milford	1	2		95 25
W. W. Loveless	Milford	34	15		1,710 27
Stanley E. Reeves	do	2	11		277 00
Total		37	28		\$2,082 52
JoDaviss County—					
Perry McTeek	Stockton	41	6		2,322 00
Kane County—					
E. H. Allen	Wasco	33	8		2,435 00
P. C. Anderson	Virgil	35	31		2,885 25
Geo. Bartelt	Elburn	43	9		3,167 50
Ray Bastian	Sugar Grove	29	120	39	3,606 48
C. M. Bower	Big Rock	16	45		1,726 14
Frank Buelter	Batavia	27			1,544 00
Gust F. Carlson	Wasco	43			3,102 50
Chapman Farm	Sugar Grove	48	2		3,147 45
Sylvester Cloney	Elburn	45	20		2,975 00
W. J. Close	Wasco	56	22		3,332 45
George Dauberman	Maple Park	59	108	9	7,427 23
Mrs. Emily Hartman	Batavia	28	53		2,630 00

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
Kane County—Concluded.					
Johnson Bros.	Wasco.	1			\$ 60 00
H. P. Johnson.	Sugar Grove.	34	81	27	3,177 50
N. P. Jorgerson.	Big Rock.	15	16		823 00
Ray Kahl.	Big Rock.		2		19 50
H. Kenyon.	Elgin.	25			1,633 10
B. S. McCannon.	Sugar Grove.	18	17		1,186 25
R. H. Mighell.	do.	50	17	8	4,845 05
Mundy & Myers.	Big Rock.	31	244		4,832 08
Henry J. Sallow.	Gilberts.	43			3,430 00
Ernest Schingoethe.	Sugar Grove.	32	12		2,282 50
Charles Shaver.	St. Charles.	31			1,631 00
Frank Sharp.	Elhurn.	55	49		3,967 33
Clarence Tanner.	Sugar Grove.	25	10	33	2,239 12
D. A. Thomas.	do.	39	199		4,685 18
G. H. Wishrock.	Batavia.	57	53		4,068 62
Total.		918	1,118	116	\$76,859 23
Kankakee County—					
Ray Greenawalt.	Momence.	26	48		1,582 34
Samuel Parliament.	do.	58	82		2,777 22
Total.		84	130		\$4,359 56
Kendall County—					
Frank Austin.	Oswego.	25			1,613 93
G. M. Bower.	do.	8	10		551 25
G. G. Collins.	do.	2			170 00
Tom Collins.	do.	49	21		3,248 95
C. C. Davis.	Yorkville.	34	31		1,799 42
Wm. Erickson.	Plano.	36	150		3,803 61
Arthur Gregory.	Bristol.	41	29		2,147 20
Harry Gregory.	Plano.	44	90		3,255 77
Harvey Bros.	Oswego.	65	32		4,877 50
O. Hem & Son.	do.	26	70		2,676 69
G. H. Hetterich & Son.	do.	55			4,696 59
Harry E. Lakin.	Plano.	14	36	19	1,619 51
Harry Mundsinger.	Oswego.	39			2,761 55
Patterson & Sears.	Plano.	80	47		5,969 75
Pislicia & Simons.	Oswego.	22	54		2,368 80
Total.		540	570	19	\$41,560 52
Knox County—					
Carey & Broadfield.	Yates City.	10	12		1,170 00
D. Corey & Son.	do.	8	91		1,622 50
J. L. Curvey.	do.	10	37		1,156 12
Arthur Goddard.	Galesburg.		150		1,125 00
John S. Matthews.	Yates City.	37			2,706 00
H. Painter.	do.	49	43		2,550 50
R. V. Ragsdale.	do.	19	158		2,048 12
J. A. Sherman.	do.	9	16		561 00
J. A. Thurman.	do.	3	8		286 00
Edith A. Ware.	do.	3	65		802 00
Total.		148	580		\$14,026 24
Lake County—					
C. M. Brown.	Gurnee.	1			45 00
C. H. Harr.	do.	3			135 00
J. M. Isbester.	Antioch.	21			1,205 00
B. Nabor.	do.	1			60 00
McCullough Bros.	Gurnee.	32			2,283 13
Total.		58			\$3,728 13
LaSalle County—					
T. J. Gheer.	Mendota.	14	25		1,238 00
Hyland & Everett.	Streator.	6	47		1,965 00
D. E. Miller.	Mendota.	22	31		1,789 66
L. S. Peterson.	Leland.	87	59		5,247 32
Total.		129	162		\$10,239 98
Lee County—					
Wm. Bend.	Paw Paw.	34	72		3,390 30
J. L. Coss.	do.	1			85 00
C. C. Faber.	do.	25	42		2,331 05

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
<i>Lee County—Concluded.</i>					
Anson Rosenkrans.	Paw Paw.	43	.....	.....	\$2,243 00
Fred W. Smith.	do.	16	157	.....	2,190 50
A. H. Yenerich.	do.	63	83	7	4,987 11
Paul McKenna.	Dixon.	81	7	.....	4,177 70
Total.	.....	263	361	7	\$19,314 66
<i>Livingston County—</i>					
A. Bruer.	Pontiac.	35	39	.....	2,122 92
Walter Gillman.	do.	94	85	.....	5,759 75
Ed. Hagerty.	Dwight.	49	68	.....	5,560 58
J. E. Pearson.	Chatsworth.	40	13	.....	1,860 00
R. Pfager.	Pontiac.	8	13	.....	598 26
S. B. Ward.	Chatsworth.	5	4	.....	307 00
Total.	.....	231	222	.....	\$15,608 51
<i>Logan County—</i>					
Isaac Gup-ton.	Middletown.	24	58	.....	2,275 03
Geo. Johnston.	Beason.	166	73	.....	9,744 87
Ernest Matthews.	do.	4	24	6	567 10
Total.	.....	194	155	6	\$12,587 00
<i>McDonough County—</i>					
Geo. Alexander.	Blandinsville.	32	132	.....	3,448 85
H. L. Argenbright.	do.	72	121	.....	6,676 80
C. H. Fox.	Good Hope.	3	42	.....	460 50
Thal-us Huston.	Sciota.	12	31	.....	715 00
L. B. Keys.	do.	28	24	.....	1,402 00
J. McGrue.	Walnut Grove.	36	43	.....	2,525 03
Andy Oelson.	Blandinsville.	30	87	.....	2,795 00
J. E. Stickle.	do.	65	109	.....	5,562 80
Total.	.....	278	639	.....	\$23,585 98
<i>McHenry County—</i>					
Charles Albright.	Algonquin.	49	12	.....	4,560 00
Lester Haynes.	Woodstock.	6	.....	.....	120 00
Walter Hopt.	Union.	27	.....	.....	1,395 00
James Lowe.	Algonquin.	49	11	.....	4,400 10
Fred C. Meyer.	do.	49	22	.....	3,939 70
Sheldon & Converse.	Union.	.....	44	.....	386 80
Sorenson & Stone.	Woodstock.	42	55	.....	3,400 39
Frank Trebes.	Union.	25	.....	.....	1,575 00
Total.	.....	247	144	.....	\$19,825 60
<i>McLean County—</i>					
Anderson & Kraft.	Normal.	22	84	.....	.....
C. F. Arnold.	do.	33	47	.....	.....
J. W. Cole.	Holder.	67	136	19	.....
Donohue Bros.	Towanda.	53	88	.....	5,992 03
Steve Drew.	Holder.	25	82	.....	.....
Ray Eastwood.	Towanda.	5	67	.....	1,591 80
Price H. Jones.	do.	91	.....	.....	.....
Jacob Mohr.	Normal.	65	108	.....	7,024 68
Silas Schad.	do.	4	53	21	.....
V. W. Stover.	Towanda.	87	80	245	8,861 28
Clarence Strimple.	Bloomington.	4	29	.....	.....
Alexander J. Woodward.	Lexington.	43	70	.....	3,352 97
Total.	.....	499	844	285	\$26,822 76
<i>Macon County—</i>					
W. S. Smith.	Mt. Zion.	25	31	.....	2,644 66
E. S. Ulery.	do.	88	136	.....	9,846 83
Total.	.....	113	167	.....	\$12,491 49
<i>Marshall County—</i>					
Jay Fairbanks.	Lacon.	51	.....	.....	2,880 00
W. S. Oshorne.	Sparland.	18	34	.....	1,411 00
Total.	.....	69	34	.....	\$4,291 00
<i>Menard County—</i>					
A. E. Banay.	Greenview.	8	7	.....	428 00
E. S. Beard.	do.	4	23	.....	473 00

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
Menard County—Concluded.					
J. G. Bell.....	Tallula.....	2	15		\$ 476 25
John P. Blane.....	Greenview.....	32	29		3,344 65
H. E. Booker.....	Tallula.....	52	167		7,287 79
Harry Brown.....	do.....	23	52		1,854 57
Oliver A. Carman.....	Petersburg.....	4	12		196 25
M. Cedarvale.....	Greenview.....	3			85 00
E. E. Claypool.....	do.....	40	4		2,125 00
C. P. Corzen.....	Tallula.....	28	264		4,532 50
Reuben Corson.....	do.....	5	51		860 49
Harry B. Denton.....	Greenview.....	2	46		464 00
Dick W. Evers.....	do.....	12			672 00
D. L. Fitzgerald.....	Sweetwater.....	2			130 00
Jasper Freeman.....	Greenview.....		3		21 00
Harry Granstaff.....	Petersburg.....	1			65 00
Elmer Hornback.....	Greenview.....		10		200 00
A. C. McAtee.....	do.....	4	57		813 25
H. J. Marbold.....	do.....	172	190	30	15,560 10
J. Marion.....	Tallula.....		2		45 00
Dick Peters.....	Athens.....	5	20		498 75
S. O. Savage.....	Tallula.....	74	156	1	7,288 02
Schone Bros.....	do.....	21	114		2,111 00
John J. Simmering.....	Greenview.....	5	72		912 50
Q. N. Spear.....	Tallula.....	82	77		7,356 75
Geo. Stahl.....	do.....	2	18		321 87
Clarence Stire.....	Petersburg.....	8	28		926 17
Mrs. Mary Stone.....	Greenview.....	6			295 00
Elijah Swiney.....	do.....			99	695 20
John Terhune.....	Sweetwater.....	26			1,355 00
Lucian Terhune.....	Petersburg.....	11	21		919 50
Karl J. Tice.....	Greenview.....	24	101		2,108 62
Samuel Trenary.....	Tallula.....	1	4		150 00
Frank Wilhelm.....	Greenview.....	7	14		835 00
Richard Woodrum.....	Tallula.....	2	19		418 37
Total.....		668	1,576	130	\$65,835 60
Mercer County—					
Ed Anderson.....	Viola.....	2			130 00
John Anderson & Son.....	do.....	84	60		3,165 00
Frank Baxter.....	Aledo.....	32	133		3,916 00
Cameron & Co.....	Alexis.....	87	118		4,697 50
Lewis D. Canum.....	Aledo.....	90	284		10,154 53
C. C. Carlson.....	do.....	74	230		5,052 00
Mrs. Kate Clark & Frank Clark.....	do.....	20	91		1,715 00
Mrs. Kate & Frank Clark.....	do.....	13			632 50
Will Fell.....	do.....	15	94		1,178 00
J. M. Fisher.....	do.....	3	43		503 50
John O. Goddard.....	do.....	2	32		371 00
Chas. Johnson.....	do.....	10	53		804 50
W. B. Main.....	do.....	61			2,530 00
Alex Maybew.....	do.....	24	75		2,146 18
Miller & Willits.....	do.....	29	31		2,561 00
John R. Moore.....	do.....	9	15		523 50
H. Perrin.....	do.....	3	100		686 50
E. C. Robbins.....	Viola.....	18	14		1,450 00
John Schroll.....	Aledo.....	13	3		590 00
Edward Smith.....	do.....	1	5		100 00
Total.....		590	1,381		\$42,906 71
Morgan County—					
I. E. Litter.....	Jacksonville.....	5	6		385 50
B. C. Madison.....	do.....	17	8		1,208 00
John Oliver.....	do.....	2			120 00
M. Schneider.....	do.....	1	2		100 00
J. M. Starr.....	do.....	61	30		5,264 00
Total.....		86	46		\$7,077 50
Moultrie County—					
J. B. Davis.....	Bruce.....	6	17		547 13
J. N. Marble.....	Bruce.....	16	14		1,089 80
Elmer Sealock.....	do.....	25	54	10	
W. P. Stricklan.....	Sullivan.....	19	3		1,280 50
J. B. Tabor.....	Allenville.....	126	12		10,241 65
Total.....		192	100	10	\$13,159 08

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
Ogle County—					
F. Althouse.....	Mt. Morris.....	54	100	.....	\$4,021 00
C. C. Barnett.....	Polo.....	65	106	.....	4,252 75
James Baxter.....	Creston.....	47	38	.....	3,094 38
Herman Bearman.....	Mt. Morris.....	20	8	.....	1,125 00
Henry Fravert.....	do.....	22	29	.....	1,690 37
Yost Frey.....	do.....	25	47	.....	1,792 50
W. J. Hereby.....	Stillman Valley.....	25	6	.....	1,527 60
George Horst.....	Mt. Morris.....	21	32	.....	1,433 06
Louisa Horts.....	do.....	12	91	.....	1,685 00
Chas. Houpf.....	Polo.....	48	56	.....	4,010 00
Fred Zundahl.....	Mt. Morris.....	20	.....	.....	1,089 08
Total.....	.....	359	513	.....	\$25,720 74
Peoria County—					
Morris & Co.....	Peoria.....	952	.....	.....	76,064 80
Piatt County—					
J. W. Bateman.....	Mansfield.....	76	137	.....	6,639 20
C. O. Gillespie.....	Harris.....	4	70	.....	632 25
George Howe.....	Mansfield.....	44	89	.....	3,702 23
R. E. Howe.....	do.....	3	.....	.....	127 80
S. F. Howe.....	do.....	5	35	.....	630 12
Will V. Roth.....	do.....	.....	30	.....	367 15
John Slavin.....	Bement.....	36	.....	.....	2,213 75
H. L. & A. P. Swartz.....	Mansfield.....	.....	25	.....	425 87
Total.....	.....	168	386	.....	\$14,738 37
Putnam County—					
H. W. Downey.....	Putnam.....	64	6	.....	2,919 00
Sa. Longman.....	do.....	19	6	.....	973 00
Mrs. Reed & Son.....	do.....	3	.....	.....	170 00
A. L. Stickel.....	do.....	33	.....	.....	1,894 70
Total.....	.....	119	122	.....	\$ 5,956 70
Rock Island County—					
Wm. McMahon.....	Reynolds.....	14	.....	.....	797 50
Sangamon County—					
Ben W. Brown.....	New Berlin.....	88	13	.....	3,325 84
E. S. James.....	Pleasant Plains.....	14	32	.....	1,624 97
R. B. Correll.....	do.....	100	467	.....	12,432 01
Percy Wilcox.....	New Berlin.....	7	22	.....	518 90
Total.....	.....	209	534	.....	\$17,901 72
Stephenson County—					
Hiram Blair.....	Pearl City.....	44	40	8	2,453 60
Mrs. Frank Blue.....	do.....	3	19	.....	268 50
Simon Brinkmeier.....	do.....	17	32	.....	1,188 00
Wm. A. Ethridge.....	do.....	27	2	.....	1,178 00
Total.....	.....	91	93	8	\$5,088 10
Vermilion County—					
H. L. Baum.....	Sidell.....	66	13	.....	4,104 82
George Buchanan.....	Georgetown.....	62	.....	.....	2,170 00
Larence Gustafson.....	do.....	10	19	.....	707 00
Grant Jones.....	Sidell.....	31	39	.....	2,154 75
Total.....	.....	169	71	.....	\$9,136 57
Warren County—					
H. M. Armstrong.....	Little York.....	15	17	.....	1,100 00
M. Blevins.....	Swanecreek.....	27	3	.....	1,240 00
J. R. Bloomer.....	Roseville.....	4	157	.....	1,399 50
R. J. Brahmsted.....	Monmouth.....	15	100	.....	1,072 50
A. J. Brent.....	Smithshire.....	45	70	.....	2,985 00
T. H. Brent.....	do.....	58	26	.....	5,853 00
T. H. Brent.....	do.....	26	18	.....	2,652 00
John W. Browlee.....	Little York.....	5	181	.....	1,772 00
F. Butler.....	Monmouth.....	8	.....	.....	425 00
Wm. Dugan.....	Little York.....	19	84	.....	1,429 50
W. E. Elliott.....	Monmouth.....	20	50	.....	2,724 00
Samuel Francis.....	Kirkwood.....	8	57	.....	831 00
D. C. Frantz.....	Monmouth.....	7	.....	.....	337 50

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Continued.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
Wasren County—Concluded.					
W. H. Gillen.....	do.	21	117		\$1,418 50
Gordon & Watson.....	Kirkwood		90		718 87
F. R. Houlton.....	do.		73		693 00
A. M. Irving.....	Monmouth	63			4,252 00
Irwin Bros.....	Youngstown	20			1,115 00
A. M. Kane.....	Swanecreek	54	64		2,905 00
W. R. Karns.....	Roseville	6	83		949 00
Geo. O. Kelley.....	Monmouth	18	117		2,552 00
Leo. F. Krause.....	do.	7			340 00
Langridge & Watson.....	Kirkwood		63		409 50
T. A. Moore.....	do.	2			90 00
T. F. Morris.....	Little York	1	72		489 00
Nicoll Bros.....	do.		174		1,572 00
A. S. O'Neal.....	Roseville	1	3		70 00
P. H. Parson.....	Monmouth	10	51		820 50
G. G. Porter & Son.....	Little York	36	138		3,326 50
Thos. Ray.....	Berwick		58		328 00
F. W. Reem.....	Alexis	3	41		451 00
A. D. Rolston.....	Monmouth	1	5		80 00
C. E. Ross.....	Roseville	3	33		350 50
Roy Ross.....	do.	14	52		1,177 50
W. O. Shore.....	Swanecreek	7	19		544 50
E. P. Smith.....	Smithshire	3	45		426 00
Ora Smith.....	Kirkwood	3	31		459 00
S. J. Smith.....	Little York	35	125		4,677 50
P. J. Stem.....	Roseville	16	260		3,127 00
G. W. Tinkham.....	Kirkwood	3	121		915 00
E. O. Tipton.....	Monmouth	1			50 00
Mrs. J. Towney.....	Roseville	4	56		660 00
H. C. Willard.....	Kirkwood	4	29		425 00
C. E. Williamson.....	Monmouth	9	66		708 50
W. H. Wood.....	Smithshire	13	115		1,360 50
Total.....		615	2,864		\$61,285 87
Whiteside County—					
Swan Anderson.....	Tampico	41	71		2,610 20
Clarence Ardapple.....	Morrison	9	62		1,307 80
W. Bates.....	Fulton	25	39		1,616 50
Richard Bell.....	do.	14	17		809 60
Richard Bell.....	Fulton		1		14 00
Eppa Boerma.....	do.	3	8		253 00
Fred Beswick.....	Morrison	71	71		3,630 50
J. J. Bristle.....	Union Grove	13	6		716 40
J. F. Cooney.....	Sterling	43	76		3,558 80
Mrs. John Cooney.....	do.	73			3,185 00
Hiram Damhoff.....	Fulton	88	145		7,660 00
John Dawson.....	Deer Grove	39	71		2,620 10
A. J. Entwistle.....	Morrison	28			1,279 00
J. J. Entwistle.....	do.	103	100		11,059 55
J. J. Entwistle.....	do.	32	1		1,189 50
J. H. Gaffey.....	Rock Falls	18	50		1,205 50
Fred Gertin.....	Sterling	29	71		2,459 20
J. P. Glassburn.....	Tampico	21			1,061 00
J. G. Green.....	Morrison	37	22		2,237 00
Henry Haberer.....	do.	17			854 00
Ben L. Hammer.....	do.	22	18		1,544 40
Roy Hammer.....	do.	22	170		2,693 20
R. M. Hillier.....	Tampico	29	34		1,772 29
Walter Hoff.....	Albany	23	73		2,923 19
C. C. Huiyenga.....	Fenton	6			307 50
Geo. Humphrey.....	Morrison	22	7		1,216 50
Geo. J. Ingerson.....	Fulton	50	187		7,843 75
Christ M. Jansen.....	Morrison	46	73		2,726 00
Ed. Knalsen.....	do.	16	10		1,017 32
R. C. Knox.....	Union Grove	31	6		1,929 50
F. M. LaDue.....	Prophetstown	31	81		4,094 50
Arian Landheer.....	Sterling	32	8		1,420 40
W. G. Lawrence.....	Fulton	22	95		1,839 35
James Leahy.....	Tampico	31	59		1,958 80
Arlie Love.....	do.	11	99		1,559 50
P. J. McCabe.....	Sterling	12	15		756 60
J. Y. McCall.....	Morrison	5			375 00
A. C. Olson.....	do.	48	77		3,292 50
Patterson Bros.....	Union Grove	29	63		2,261 20
Potter & Knox.....	Morrison	45	152		4,592 60
H. H. Russell.....	Tampico	45			2,989 23
Mr. Russell.....					

HERDS SLAUGHTERED WITHIN THE STATE OF ILLINOIS—Concluded.

Name.	Postoffice.	Cattle.	Hogs.	Sheep.	Appraised value.
<i>Whiteside County—Concluded.</i>					
Anson Rheim.....	Mt. Pleasant.....	19	29	.....	\$1,006 50
Fred Schriner.....	Morrison.....	20	92	.....	1,794 50
C. F. Senior.....	Albany.....	29	.....	.....	1,317 40
N. K. Senior.....	do.....	59	.....	.....	2,148 57
Leaser Sharer.....	do.....	15	.....	.....	717 50
John Smith.....	Fulton.....	33	62	.....	2,730 64
A. P. Stalcup.....	Morrison.....	49	76	.....	3,763 00
D. W. Steiner.....	Union Grove.....	16	28	.....	1,142 58
Frank Van Zuider.....	Fulton.....	7	.....	.....	360 00
D. A. Wilson.....	Erie.....	13	.....	.....	587 50
F. E. Wilson.....	Sterling.....	18	53	12	1,349 90
Lloyd J. Wilson.....	Fenton.....	31	46	.....	3,055 60
Paul Wilson.....	Morrison.....	26	68	.....	2,165 10
William Workman.....	do.....	83	52	.....	5,953 50
Total.....		1,700	2,544	12	\$126,532 27
<i>Will County—</i>					
J. F. Anderson.....	Plainfield.....	4	1	.....	220 75
Anderson Bros.....	do.....	.....	32	.....	165 57
Anderson Bros.....	do.....	53	.....	.....	3,186 77
Mrs. Barnes.....	Steger.....	1	.....	.....	62 00
John B. Clow.....	Plainfield.....	68	74	.....	5,698 25
Thomas Clow.....	do.....	42	157	.....	5,070 36
Arthur F. Craymer.....	Wilmington.....	53	43	.....	2,745 00
Harry Dowell.....	do.....	15	2	.....	861 00
Joe Drowden.....	Plainfield.....	14	24	9	1,422 87
Wallace Ferguson.....	do.....	6	64	3	1,049 20
Homer B. Frommon.....	do.....	74	78	.....	10,492 55
Fred Lauterbach.....	do.....	27	29	.....	2,389 45
John W. Patterson.....	do.....	44	61	3	3,863 50
W. D. Patterson.....	do.....	49	30	.....	4,525 16
Clayton Smith.....	Plainfield.....	34	67	.....	2,828 00
F. W. Stewart.....	do.....	29	65	.....	3,106 50
Harry Storm.....	New Lenox.....	43	14	.....	4,644 00
C. Warning.....	Mokena.....	74	50	.....	5,768 37
Frank Wilson.....	Plainfield.....	8	35	.....	750 00
Total.....		638	826	15	\$58,849 80
<i>Woodford County—</i>					
C. L. Jury.....	Washburn.....	2	2	.....	170 00
John J. Kapraun.....	Benson.....	39	39	.....	2,159 00
Robert Peachey.....	Washburn.....	56	.....	.....	3,325 80
Mrs. Ella Toole.....	Panola.....	5	14	.....	491 00
Total.....		102	55	.....	\$ 6,145 80
Recapitulation.....		16,671	24,984	876	1,338,584 18

SUGGESTION BY MEMBER OF THE HOUSE FOLLOWING ALL
THE ADDRESSES AND DISCUSSIONS.

In view of the fact of the very large amount of information gathered here this afternoon, it occurs to me, in consultation with Governor Dunne and also Mr. Shanahan, who has charge for many years of our appropriations in the House, we should take some steps to have this information printed in pamphlet form for distribution among the farmers and live stock growers and dealers in the State, and to authorize any such expenditure. I believe the Secretary of State would be justified in having printed a verbatim report of this meeting this afternoon, say 20,000 copies. I believe it is well worth the expenditure, and is well worth our taking the responsibility upon ourselves to say we will approve the action of the Secretary of State in making this expenditure, so we may distribute these copies throughout the State of Illinois.

It is very proper that the necessary motion be made when we have completed the formal organization of this House. We cannot make the motion at this time. This is merely a suggestion, and the sooner they are printed the better. The sooner we get this information distributed throughout the State, the more rapidly will farmers and stock growers accept the situation.

MR. STEVENSON: I will see that this is done at once. In accordance with this suggestion there will be published 20,000 copies at once.

Any other remarks? (Pause.) I believe, gentlemen, that this is the end of our program.

